INTERNATIONAL NUTRITION AND HEALTH

HEARING

BEFORE THE

SELECT COMMITTEE ON HUNGER
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

FIRST SESSION

HEARING HELD IN WASHINGTON, DC, MAY 16, 1985

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INTERNATIONAL NUTRITION AND HEALTH

THURSDAY, MAY 16, 1985

House of Representatives,
Select Committee on Hunger,
Washington, DC.

The committee met, pursuant to call, at 9:45 a.m., in room 2212, Rayburn House Office Building, Hon. Mickey Leland (chairman) presiding.

Members present: Representatives Hall, Daschle, Dorgan, Morrison, Gilman, Evans, and Bereuter.

OPENING STATEMENT OF HON. MICKEY LELAND, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Chairman **Leland**. Good morning. I would like to welcome our distinguished witnesses to this hearing of the Select Committee on Hunger.

The Select Committee on Hunger was reauthorized by the House of Representatives in March of this year to continue its study of both international and U.S. issues related to hunger. We are very pleased to have you with us today to discuss issues of nutrition and health which affect the lives of millions of people in less developed countries today.

Last year Congress reaffirmed its belief in the importance of international nutrition and health programs by establishing a Child Survival Fund. Congress also increased funding for health assistance and nutrition assistance in the foreign aid appropriations legislation. Many of the members of this committee were strongly supportive of these measures. We are very much interested in hearing today how the Agency for International Development and the private voluntary organizations involved in health and nutrition programs are putting those additional resources to use.

Providing basic nutrition and health care to people in less developed countries is a critically important part of our Foreign Aid Program. The House of Representatives will soon consider a foreign aid authorization bill for fiscal year 1986. Our Foreign Affairs Committee has proposed a bill, H.R. 1555, which maintains a high priority for health and nutrition programs. The administration, however, is seeking to reduce the level of U.S. Government support for international health and nutrition programs by over $100 million in its fiscal year 1986 budget request. At the same time, the administration is proposing to increase spending for military aid. Overall, the administration would increase military aid by 15 percent and decrease development aid by 11 percent.

The Select Committee on Hunger is concerned about this shift in foreign aid priorities. We want to ensure that our Government's program for less developed countries will assist them in meeting their basic human needs. We believe that assisting them to become more self-reliant by reducing levels of hunger and malnutrition, by improving health, and thus by increasing their economic productivity will truly assist in creating a more secure world.

Today, we have a panel of experts to tell us about programs that will help us to reach these goals. At this point in history we have the opportunity to eradicate diseases such as polio from the face of the Earth. We have the opportunity to reduce child death rates by one-third with 2-cents' worth of vitamin A. We have the opportunity also to make our Foreign Assistance Program a vital link in improving the lives of people around the world.

I want to thank you for being with us today. And let me now offer my colleagues an opportunity to make any opening statement that they have.

Mr. Morrison.

OPENING STATEMENT OF HON. SID MORRISON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. **Morrison**. Thank you, Mr. Chairman.

I would comment, since our ranking members are not here, just for those of us on this side of the aisle that we look forward to the hearing. A number of us will be in and out. We do feel that nutrition and health initiatives play a vital role in foreign policy, and to the extent that this committee can provide the investigations and some answers, we think we can be of very real service to this Congress as we try to find answers in the most efficient way of reaching out and helping people all around the world.

So, again we compliment you and your leadership in putting this group together. We look forward to hearing from not only the Federal agency involved, but the private voluntary organizations that are so important in this area of health and nutrition.

Chairman **Leland**. Thank you.

Mr. Hall.

Mr. **Hall**. I have no comments, Mr. Chairman.

Chairman **Leland**. Mr. Gilman.

OPENING STATEMENT OF HON. BENJAMIN A. GILMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. **Gilman**. Mr. Chairman, I want to commend you for arranging this hearing and bringing such a distinguished group of panelists before us.

Hunger isn't just related to having enough food to eat; malnutrition takes a heavy toll. Trying to find better ways of providing the kind of nutrition for our young people throughout the world is an extremely important responsibility, and not only for this committee, but for our entire Nation. I therefore welcome the opportunity to hear our panelists.

I regret I am going to have to scoot off for a few minutes. I will try to get back as quickly as I can. I have another committee responsibility.

Thank you, Mr. Chairman.

Chairman LELAND. Mr. Evans.

Mr. EVANS. No comment. Thank you, Mr. Chairman.

Chairman LELAND. Thank you all for your statements.

Now, we will hear from our first witness, Mr. Nyle Brady, head of the Science and Technology Bureau at the Agency for International Development.

Mr. Brady.

STATEMENT OF NYLE C. BRADY, SENIOR ASSISTANT ADMINISTRATOR FOR SCIENCE AND TECHNOLOGY, U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Mr. BRADY. Thank you, Mr. Chairman. I appreciate this opportunity to appear before this committee.

We certainly agree with the seriousness of the concerns that you are addressing. Worldwide there are about 125 million births each year, and 100 million of those are in the developing countries with which we are concerned. And in many of the poorest regions of these countries as many as one-half of the children die before reaching the age of 5. Ten million children die annually in the AID-assisted countries, 27,000 per day. In developing countries every year 5 million children face handicaps as a result of the diseases which could be prevented. Crude disabilities and handicaps such as paralysis, loss of limbs, loss of hearing or sight are as much as eight times more prevalent in those areas than in the United States. Eighty percent of these we think could be prevented with currently available methods. There are 140 million children between the ages of 6 months and 5 years old are malnourished. Over one-fourth of the developing-country children suffer from undetected malnutrition. So we share your concerns.

I would like to take a few minutes to talk to you about some of the programs that we have and talk about some of the results and some of the promises that we have for the future. Last week, the House passed a resolution 420 to 1 commending President Duarte for the immunization program in El Salvador. In a single day, April 21, an estimated 300,000 Salvadoran children were immunized against common childhood diseases. AID is pleased to have contributed to that program. We believe that the efforts of our agency, not alone, but working with the Government of El Salvador, UNICEF, PAHO, Rotary International, Project HOPE, the Catholic Church, and other organizations, some of whom are represented here today, will make a dramatic difference in the health of the children of that country.

The immunization program in El Salvador is just one example of the health programs that we are trying to support. This fiscal year, with the additional health, nutrition and child survival funds provided by the Congress, we have been able to greatly accelerate our assistance efforts in health and nutrition and to launch what we call a Child Survival Action Program.

Now, we are trying to sharply focus our efforts and not just scatter them out in a random fashion. This focusing is on countries where the need and the likelihood of impact are the greatest on target interventions with a track record of success, including oral rehydration therapy to replace fluids loss during diarrheal episodes, immunization against the six most common diseases of children, and key nutrition interventions, growth monitoring, nutrition education to promote correct infant feeding and breast feeding, and vitamin A therapy.

The program is assisting governments to extend the availability of these key technologies and private enterprise as well. It is also providing funds for international organizations—UNICEF, UNDP—and at least one-third of the additional $85 million will support activities by U.S. and host country private voluntary organizations, including $7.5 million that we are providing for UNICEF will go to these local PVO's primarily. These organizations play a vital role in providing health care to people in developing countries and can often reach families in areas where public sector services are not established.

Let me describe just a few of the things that have already taken place and that we are expecting to support. In Haiti, we are supporting the expansion of a successful urban health program, expanding this to rural areas. The association of local PVO's we are supporting have already had remarkable results in the urban areas, increasing immunization coverage from 1 to 40 percent among the target group in just 1 year. We are anticipating similar results in rural Haiti as well.

In Ecuador, we are supporting a national immunization and ORT campaign which will enlist the media of that country. At the end of April, the First Lady of Ecuador, who is also the head of the National Institute for Protection of the Child and the Family, spent a full day with AID's technical staff personally participating in the planning of this program.

We are following up the recent work of Johns Hopkins University and Helen Keller International in Indonesia that showed vitamin A distributed to prevent nutritional blindness also had a significant effect in reducing sickness and death among children from respiratory diseases and diarrhea. This is a finding that is of extreme importance, and we are wanting to expand this work into pilot projects in six countries, including Bangladesh, Indonesia, and Malawi. These are just a few examples of the activities that we are planning, the activities that we are hoping to expand.

Now, I would like to just make a few comments also about some of the work that is going on with our regular funds. In terms of trying to give us better tools to combat these diseases that we have had in the past, we are convinced that one of the reasons that health care has not moved as rapidly as it should have, particularly in the case of the immunizations, is that it is either too expensive or too difficult for some of the countries to handle these immunizations; and one of the reasons being the fact that there are few heat stable vaccines. If you are out in the inlands of Africa where there is no electricity, it is very difficult for them to do this.

So we are carrying on some research work to try to provide better vaccines than we now have. We are focusing on the rapid development of a number of vaccines which have had significant payoff, we hope will have a significant payoff within a very short time; examples being measles, malaria, and a long-term disease, leprosy. Research work—much of the research work has already been done and we are moving into field trials to try to determine if those would be useful. A major problem facing immunization is that many of these vaccines require careful temperature control and repeated doses over a period of time. So it is not a matter of getting the child once, you have tc do it several times.

Now, we have also launched a 5-year project to simplify the handling and administration of vaccines against major killers. I mentioned measles. A vaccine for whooping cough that has fewer negative side effects than the one currently in use. A vaccine for Rhotal virus, the most prevalent cause in infant diarrhea.

And of course you are aware we are supporting research on malaria, and it has really paid off. We now have two prototype mosquito stage vaccines ready for field testing for the two most important forms of the malaria vaccines. I participated in a conference at the University of Hawaii only last month where we brought in scientists from around the world to help us determine the proper way we could field test these vaccines. The field trials will go ahead as planned.

We have supported research on cholera, the most severe of the diarrheal diseases, and there is a new cholera vaccine that is much more effective than the one we have had in the past. And here, too, we are moving toward field testing this vaccine in Asia and in Africa.

Likewise, in the case of leprosy, the research has been done to provide a candidate vaccine, and we are moving in Ecuador and elsewhere—Malawi I believe is the other country—to try to test this out to see if it can be used.

So, we are moving forward with the technology that we now have, but we are also trying to develop better technologies to make it cheaper, to make it less expensive for these countries to use themselves.

Thank you very much for this opportunity to make a brief statement.

Chairman Leland. Thank you, Mr. Brady.

Responses to Questions for Nyle C. Brady

QUESTIONS SUBMITTED BY HON. MICKEY LELAND

Question. As I am sure you know, Mr. Brady, many of the members of this committee worked for the $60 million increase of health and nutrition funds last September. How is this funding being allocated?

Answer. I am pleased to share with you our proposed allocation plan for the additional fiscal year 1985 health, nutrition and child survival funds appropriated by the Congress for expanded health service delivery designed to reduce infant and child mortality in the developing world (see table).

The program presented here focuses specifically on the major causes of infant and child mortality. A central focus of the child health initiative is oral rehydration therapy, ORT. One in every 10 children born in Africa, Latin America, and Asia dies of dehydration from diarrhea before the age of 5. A second important focus of the health initiative involves immunizations. WHO estimates that 5 million infants and children die each year of diseases which are preventable by immunizations. In addition, the program will support the expansion of vitamin A therapy and evaluation of the impact of this therapy on child mortality and morbidity in Africa and Asian populations.

This program will be carried out through expanded bilateral health programs and will also enlist the help of UNICEF and UNDP. We also plan to fund a number of U.S. private voluntary organizations which are ready to mount expanded health programs this year. These efforts will be concentrated in countries where we expect there can be high payoff in lives saved.

FISCAL YEAR 1985 PROPOSED ALLOCATIONS TO EXPAND PHC SERVICE DELIVERY

[In thousands of dollars]

	Child survival	PHC supplement	Nutrition supplement	Total
Africa:				
Somalia: Emergency health services for Somalis in villages near refugee settlements		$2,000		$2,000
Regional: Training African medical personnel in child survival strategies, conference on water and sanitation problems in sub-Saharan Africa; small grants to HBCUs to participate in the U.S. child survival initiative; collaboration with UNDP on child survival programs; nutrition surveillance programs (countries to be determined)	$3,500	2,900	1,500	7,900
Asia:				
Bangladesh: Social marketing of ORT through 8,000 outlets throughout the country	5,000			5,000
Philippines: Integration of ORT in nationwide rural primary health care project		4,000		4,000
Nepal: Expansion of ORT and immunization nationwide		1,000		1,000
Indonesia: Material/child health program, involving training village health workers, in conjunction with title II program		1,500		1,500
India: Expansion of ORT and immunization activities in one or two Indian States		1,500		1,500
Regional: Strengthening PHC programs in Asia region through Asia-Pacific consortium		2,200		2,200
Latin America and Caribbean:				
Haiti: Expansion of proven ORT, immunization, nutrition and family planning program to one million rural children	3,000			3,000
Ecuador: Expansion of successful integrated rural health program nationwise including nutrition, ORT, immunization and major malaria program; PVO community-based applied nutrition program		7,000	500	7,500
Bolivia: PVO nutrition program			300	300
Guatemala: Expansion of immunization and ORT in rural areas		3,000		3,000
Peru: ORT Mass Media Program: Support for local community-based PVO nutrition program		500	300	800
Regional: ROCAP, ORT, Growth Monitoring and Nutrition Surveillance in Central Ameria		5,500		5,500
Near East: Regional: Private sector approaches to nutrition improvement			700	700
Food and voluntary assistance: To be allocated to selected PVOs that are ready to mount child survival programs, including innovative nutrition programs focusing primarily on the following countries: Uganda, Malawi, Zimbabwe, Kenya, Rwanda, Indonesia, Bangladesh, Haiti, Bolivia, Ecudaor	5,000	9,300	1,500	15,800
Science and Technology:				
Johns Hopkins, Vaccine Center (earmarked in child survival legislation)	1,000			1,000
PRITECH: ORT initiative in Bolivia and with INCAP		600		600
PHC/TECH II: Field support to expand ORT, immunization and other child survival programs worldwide		4,000		4,000
Malaria and related vector control: Field support to improve the design and management of efforts to control vector-borne diseases		500		500
Expanded procurement and local production of key commodities for child health, especially ORS		2,000		2,000
Expanded program to collect and disseminate information on the design and management of cost-effective health programs, focussing on implementation issues in ORT and immunization programs, with other bilateral donors, multilateral agencies, and PVOs (including international conferences and workshops on ORT and breakthroughs in vaccine development)		2,500		2,500
Program to improve dietary management of diarrheal disease			1,000	1,000
Program to reduce nutritional blindness through Vitamin A distribution in countries in Asia and Africa			3,500	3,500
Expanded use of mass media for health and nutrition education			700	700
UNICEF: Special U.S. Child Survival Program focusing primarily on indigenous PVO's in the following countries: India, Indonesia, Sudan, and Nigeria	7,500			7,500
Total	25,000	50,000	10,000	85,000

Question. Given that the Agency's budget for health programs increased from $146 to $223 million, an increase of over 50 percent, why has the number of health personnel in the Agency decreased?

Followup. How do you plan to increase the capability of the health office to meet congressional intent of expanding health assistance?

Answer. The Agency has taken a number of steps so that the fiscal year 1985 increase in the Agency's health budget is planned and managed effectively, in a way that does not diminish our capacity to manage the rest of our health portfolio.

The management responsibility for the approximately 50 new or expanded projects and grants has been spread over three regional and three central bureaus and approximately 11 field missions.

More than one-third of the additional health, nutrition and child survival funds are being granted to private voluntary organizations, all of which have a field presence and will assume major management responsibility for project implementation.

As I indicated in my oral testimony, we have also augmented AID's staff capacity with external resources—including U.S. universities, contractors, and individual experts—where appropriate.

Let me assure you that we are keeping a close watch on the impact of necessary staff reductions on the Agency's health programs.

Question. It appears that the fiscal year 1986 budget request would require sharply reduced health assistance in certain countries. For instance the health program in Bolivia is slated for a reduction from $2.7 to $.12 million, a cut of over 99 percent. Can you explain why you would reduce health assistance to a country with one of the highest infant mortality rates in the hemisphere?

Answer. The figures you cite are only a partial picture of AID's health funding level for Bolivia. AID provides bilateral health funds, title III local currency, and central Bureau health funds—Food For Peace and Voluntary Assistance and Science and Technology. During fiscal year 1986 the Mission will be implementing a number of ongoing health projects and anticipates substantial new resources in fiscal year 1987. The apparent cut in resources appears becuase Bolivia is liquidating its health project pipeline, previously obligated funds, and is implementing a number of centrally funded health projects begun in fiscal year 1985 which do not appear in Bolivia's OYB.

BILATERAL HEALTH PROJECTS

The Self-Financing Primary Health Care Project (511-0569) activities are approximately 1 year behind schedule. This health grant has been extended through fiscal year 1987. Level of funding: $1,100,000.

The Rural Sanitation Project (511-0458) and 511-U-058) will be active through 1986. Level of funding: $4,310,000.

Bolivia received $300,000 in ARDN (nutrition) funds under the fiscal year 1985 Child Survival Action Program. This funding will be obligated in an Operation Program Grant (OPG) with Catholic Relief Service (CRS). The expected level of funding is $635,000.

TITLE III FUNDS

The Mission is funding a $500,000 project in potable water with a local PVO in Santa Cruz utilizing title III funds.

The Mission anticipates signing a new title III agreement with the GOB for the period of 5 years beginning in fiscal year 1986 which will provide the equivalent of $US 8 million in Bolivian currency to the Ministry of Health which will finance disease control activities including immunization.

CENTRAL FUNDS FROM THE FFP/FVA BUREAU

In fiscal year 1985 at least four PVO's will be funded under the Child Survival Funds from FFP/FVA's account. The PVO's include CARE, $625,000; Project Concern, $400,000; Save the Children, $669,000; and CRS, $83,000. The total funding for these activities in $1,777,000.

CENTRAL FUNDS FROM THE S&T/BUREAU OFFICE OF HEALTH

In fiscal year 1985 S&T/Health PRITECH project will assign $300,000 to oral rehydration activities (child survival activities) in Bolivia in collaboration with the local offices of CRS and CARITAS.

POTENTIAL NEW PROJECTS

The Mission anticipates a new health project in fiscal year 1987 for $3 million. This will be a follow-on project to the on-going pilot Self-Financing Primary Health Care Project and is anticipated to extend the activities to Cochabamba and LaPlaz.

The Mission is also considering a potential fiscal year 1987 follow-on rural water project possibly to be implemented by CARE.

Question. New research findings on vitamin A programs show that they have a dramatic impact on reducing disease and death rates among children in less developing countries. Yet your budget has no allocation for vitamin A activities in the Office of Nutrition. Why is AID reducing its commitment to support vitamin A programs?

Answer. AID has a strong commitment to vitamin A activities. The Agency will be able to substantially augment vitamin A and related health activities with the additional funds appropriated by Congress in fiscal year 1985 for health, child survival, and nutrition. It is difficult to predict at this time what additional funds may be needed in fiscal year 1986 and beyond.

The Offices of Nutrition and Health in the Bureau for Science and Technology and the Bureau for Food and Voluntary Assistance will utilize over $5 million of fiscal year 1985 child survival and nutrition funds, in addition to the Office of Nutrition regular vitamin A budget for fiscal year 1985, $450,000; and fiscal year 1986, $575,000 to:

Expand vitamin A distribution programs in five countries (Bangladesh, Indonesia, Malawi, Philippines, and Zambia).

Evaluate the impact of vitamin A supplementation on child morbidity and mortality in four Asian and African populations (Bangladesh, India, Philippines, and Zambia).

Conduct operational research studies to identify the physiological basis for the observed reduction in morbidity and mortality following vitamin A supplementation.

Make social marketing and nutrition education techniques available to country programs to promote vitamin A interventions.

Explore the feasibility of supplementing foods with vitamin A to replace direct interventions.

[The prepared statement of Mr. Brady appears at the conclusion of the hearing, see p. 64.]

Chairman **Leland**. I yield to my colleague, Mr. Hall.

Mr. **Hall**. Thank you, Mr. Chairman.

Mr. Brady, I appreciate what AID has done over the past few years delivering as far as health and nutrition services to countries which otherwise, probably wouldn't receive this type of assistance.

There are a few things on my mind today which I would like to have addressed. They are items which pertain to the continuing resolution which we passed in late September 1984. The continuing resolution included about $60 million for health aid. Many of us here today, supported this provision and pushed very hard for its enactment.

You began your testimony today by talking about the great need for health services, the great numbers, the staggering statistics that are occurring. To my knowledge, since September that $60 million, which was vitally needed last year, has not been placed. Not one dime of that money has been allocated yet. I saw a chart listing where that money was going to go several months ago. Because in questioning various people in AID they said they had just made a decision; and yet, to my knowledge, none of that money has been placed. That is the first question.

A follow-up question to that is almost everybody who have come before us both publicly and privately have said that the health programs, even though being increased over 50 percent, the health personnel is going down. That is a mystery to me, too. So it is a two-part question.

Mr. **Brady**. Well, as a scientist and a professional, those questions are of great concern to me, too. I have only been in this position for 3 years, having worked for 26 years as a professor at Cornell University and then 8 years overseas as the head of a research institute. I am still trying to get used to the time that it takes to get projects organized and moved through the Government.

I do think, however, that we have to recognize that we did want to sharply focus these efforts. One of the problems I think we have had in the past, not only in health, but other areas, we tend to shoot with a shotgun instead of a rifle. We get the money out, we throw money at problems. We have decided in this administration that, by gosh, we are going to try to sharply focus.

You take the oral rehydration therapy, that is part of primary health care. But I will be quite frank with you, that really didn't get going until we sharply focused on ORT. The same thing in immunization. You talk immunization generally, but you have to have specific programs. So we were determined right from the beginning that we were not just going to throw the money at the problem, we were going to try to find out, as I indicated, where we could work for the best payoff, we were going to find out who could do it, and we were going to see to it that it was sharply focused on the two or three areas where we thought we could really make an impact.

So that is part of the reason it has taken us a little more time. But I am very proud of the way this is organized and the way it is moving along.

Second, it does take time through the process to get bids on some of the projects, and to get projects coming to us for evaluation. I think this process is moving along as well as I think we could have expected under the circumstances, and we do have a significant portion of the moneys that at least are obligated now, and we have other projects that are near obligation, and even though it is not going as fast as I would like for it to I do believe that in a year's time by taking this more deliberate stance we will be better off than if we had just quickly allocated the money and got it out and spent it. I think now that we have got it organized in such a way that we will really get our money's worth.

Now, the second question, again as a professional, I, too, am concerned about the number of individuals that we have to take the leadership on this program, not only here in Washington, but out in the field. But at the same time I am likewise fully supportive of efforts to try to see to it that as much of the work as can be done be done through the private sector, be done through private voluntary organizations and not through the Government by adding to our own staff. So we are trying to by contracting with others to provide advice on this, to give us the help that we need to get the program put through.

There are various ways you could do it. We could have shopped and got increases in our own staff, but we have decided we can handle this by going the contract route, bringing in advisers to help us with these, and to work to the degree we possibly can through PVO's, through private contractors.

Mr. HALL. Thank you, Mr. Brady. I appreciate your sensitivity to the concern that this aid takes a long time to be placed. If you would I would appreciate for the record if you would supply us with an idea of the placement of this money, of this $60 million, and the timetable and if any of this money has been sent out thus far. That is very important. It has been almost 8 months now, possibly 9 months, since that bill has passed. I don't think one dime has been placed on it yet. That is No. 1.

And No. 2, if you could tell me, to give me some good answers for the record of why the health personnel is going down when the budget for health personnel and health nutrition efforts, immunization, oral rehydration, et cetera, is going up, and give me an idea of what AID is doing as far as trying to bring people on-line for health personnel. Thank you.

Mr. BRADY. I will be glad to do that for the record. We have obligated about 20 percent of the program, and I will give you the specifics in terms of the timetable that we have set up. We have a timetable, and we feel that the funds will all be obligated appropriately this year.

Chairman LELAND. Let me just ask, Dr. Brady, for you to follow up on that right now. Can you answer why there has been a decrease of persons in the Health Office from 24 to 18, as I understand it? There are numerous vacancies in health posts worldwide.

Mr. BRADY. Well, there have been reductions worldwide in the Agency. I have personally seen to it that the reductions in the technical personnel are in accord with the total reductions, that we don't allow the technical personnel numbers to go down more rapidly than those that are concerned with general management. And Mr. McPherson has likewise helped to see to it that that does not happen.

I have also been very active in trying to find alternatives to provide us the technical expertise without increasing or even in some cases having to maintain our personnel numbers. I believe that we are going to have available to us through contract and other mechanisms sufficient technical expertise to carry this program out, and even though we will not have as many direct hire personnel to do so.

Chairman LELAND. Is there any specific reason, though, that you are decreasing the number of personnel when, in fact, our sources say there is a greater need today?

Mr. BRADY. In terms of the personnel in the Health Offices, I would have to check this out, but I can assure you this is part of an overall reduction in the staff numbers in the Agency. That it is part of the administration's attempt to reduce the number of direct hires that we have. I have seen to it that the health numbers are not reduced any more and—I will have to check on this—I think we will find that they are even reduced less than the average for the Agency as a whole. But I can provide these facts for you.

Chairman **Leland**. Please. I would also like to have a comment from you in that statement that comments on whether the reduction of personnel reduces the effectiveness of the Agency in those areas.

Mr. **Brady**. I will be glad to do so, and give you the alternatives that we have come up with to take the place of reduced direct hires.

Chairman **Leland**. Without objection, we will hold the record open for those comments.

[The information referred to above follows:]

OBLIGATION STATUS OF CHILD SURVIVAL ACTION PROGRAM—PLANNED OBLIGATION SCHEDULE

[In percent]

	Child survival fund ($25 million)	Health ($50 million)	Nutrition ($10 million)	Total ($85 million)
Current obligations	0	41.0	0	24.0
Cumulative obligations (by August 31)	85	66	82.9	72.8
Obligations (by September 30)	100	100	100	100

HEALTH PERSONNEL

It is difficult to give a full answer to your questions at this time. The Agency is currently restructuring its staff to accommodate a lower operating expense budget. When this process is complete, we will be able to respond more fully.

I am able to share with you our worldwide personnel roster in health as of January of this year. I would note that agencywide, there are more technical people than there were 4 years ago. We are keeping a close watch on all categories of technical personnel, including health professionals, to assure that we have adequate staff to plan and manage these programs.

A.I.D. HEALTH, NUTRITION, POPULATION STAFF

I. SCIEN~~CE AND~~ TECHNOLOGY BUREAU

AGENCY DIRECTORATE FOR HEALTH AND POPULATION

Agency Director	James E. Sarn, M.D.
Deputy Agency Director	Francis Herder
Executive Assistant	Jane Shallcross

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Associate Director	Ann Van Dusen
Program Officer	William Oglesby
Program Operations Assistant	Janet Ice

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Tropical Disease Officer	Alfred Buck, M.D.
Vector Borne Disease Officer	Larry Cowper
Oral Rehydration Specialist	Carl Kendall**
Public Health Advisor	Victor K. Barbiero

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Program Manager Health Dev.	Allan P. Randlov
Public Health Advisor	Tina Sanghvi
Public Health Advisor	Robert Clay

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Sanitary Engineer (Training)	John H. Austin

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Asia & LAC Coordinator	Charlotte Cromer
Program Analyst	Betty Case
Program Specialist	Vacant
Population Advisor	Sharon Epstein

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Social Science Analyst	Harry Cross
Statistican/Demographer	John Chao
Economist	Scott Radloff
Social Science Analyst	Adrienne Allison
Social Science Analyst	John Crowley
Statistician/Demographer (PT)	Constance Carrino

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Biologist	Jeffrey Spieler
Social Science Analyst	Jerald Bailey
Population Advisor	Marcia Townsend
Statistican/Demographer	Jack Lawson
Population Advisor	Maria Mamlouk
Reproductive Biologist	Russel Thomsen M.D.*
Endocrinologist	Laneta Doerflinger**
Social Science Analyst	Anna Quandt
Program Operations	Vicki Ellis

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Population Advisor	Neil Woodruff
Population Advisor	Edwin McKeithen
Population Advisor	Thomas Harriman
Population Advisor (PT)	Robert Layton
Population Advisor (PT)	Marnie Chen
Program Operations Assistant (PT)	Mary Seliskar

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Supply Management	Vernon Peterson
Economist	Karen Peake
Commodity Management	Patricia Hill
Program Operations Assistant (PT)	Bonita Blackburn

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Poulation Information Advisor	Anselmo Bernal
Population Information Advisor	Melody Trott
Population Information Advisor	Vacant
Population Training Advisor	Marilynn Schmidt
Population Education Advisor	Elaine Murphy
Program Operations Specialist	Charlotte Ureksoy
Program Operations Assistant (PT)	Vacant

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OFFICE OF NUTRITION

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Deputy Director	Nicolaas Luykx
Program Operations Assistant	Sallie Mahone

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Nutrition Advisor (Surveillance & Vit. A)	John I. Mckigney
Nutrition Advisor (Requirements & Iron)	Samuel G. Kahn
Nutrition Advisor (Education)	Vacant
Nutrition Advisor (Planning)	Maura Mack
Infant Nutrition Advisor	Vacant

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Health/Nutrition Advisor	Vacant

AFR/DR/POP

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Population Advisor	Lawrence R. Eicher

AFR/RA/TECH

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Public Health Advisor	James R. Cummiskey

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I.D.I.	Leslie D. Curtin

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GHANA

Health Development Officer	Vacant

IVORY COAST

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Population Officer (Regional)	Sarah Clark
Asst. Pop Dev Officer (Regional)	Joyce M. Holfeld

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Health Development Officer	Charles Mantione
Population Officer (Regional)	Barbara Kennedy (REDSO)

LIBERIA

Public Health Advisor	Alan C. Foose

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MALI

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MALAWI

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MAURITANIA

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I.D.I.	Betsy H. Brown

NIGER

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NIGERIA

Population Dev. Officer	Elizabeth K. McManus

RWANDA & BURUNDI

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SENEGAL

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Population Dev. Officer	Sara A. Seims

SOMALIA

Health Advisor	Vacant
Population Dev. Officer	Margaret A Neuse

SUDAN

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Asst. Pop. Dev. Officer	Lois E. Bradshaw

SWAZILAND (BOTSWANA & LESOTHO)

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Asst. Pop Dev Officer	Vacant

TANZANIA

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I.D.I.	Pamela A. Mandel

ZAIRE

Population Dev. Officer	(Vacant)
Health/Pop. Development Officer	Richard Thornton

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Asst Population Dev. Officer	Marilee McIntyre
Pop/Health Dev. Officer	William R. Goldman
Asst Health Dev Officer Physician	Huey L. Mays, M.D.

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BANGLADESH

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Asst Pop Dev Officer	John Thomas
Asst. Pop Dev Officer	Annesigrich Anderson
I.D.I.	Liliana Ayalde

BURMA

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INDIA

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Asst Health Dev Officer	Spencer Silberstein
Nutrition Advisor	Mary Ann Anderson

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Health/Pop Dev Officer (Deputy Chief)	David L. Piet
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Program Manager Pop Dev. Officer	David Denman
Program Manager Pop Dev. Officer	Rebecca W. Cohn
Nutrition Advisor	Julie M. Klement
Program Manager Health Dev	Molly W. Gingerich

NEPAL

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Public Health Advisor	Joseph K. Anderson

PAKISTAN

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Population Dev. Officer	William H. Jansen

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Asst. Health Dev Officer	Joy Riggs-Perla

SRI LANKA

Health Development Officer	William H. Johnson

THAILAND

Health/Pop Development Officer	Terrence Tiffany
IDI	Patricia A. Moser

AREA DEVELOPMENT OFFICE/SOUTH PACIFIC

Regional Development Officer (BS 12)	William E. Paupe

IV. LATIN AMERICA BUREAU

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Asst. Health Dev Officer	Paula Feeney
Asst. Health Dev. Officer	Carol J. Dabbs

LAC/DR/P

Chief, Population Division	Maura H. Brackett
Social Science Analyst	Robert B. Corno
Social Science Analyst	Vacant

BARBADOS

Health/FP Dev Officer	Holly Wise

BOLIVIA

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Assistant Health Development Officer	Katherine W. Jones-Petron

DOMICIAN REPUBLIC

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Health Dev. Officer	Lee R. Hougan
Asst. Health Dev. Officer	John H. Thomas

ECUADOR

Health/Pop Development Officer	Kenneth R. Farr, Ph.D.
Sanitary Engineer	Herb Caudhill *

EL SALVADOR

Dep. General Development Offr (BS 12)	John A. Massey

GUATEMALA

Health/Pop Dev Offr	Paul D. Cohn
Population Dev Officer	Clifford Belcher
Nutrition Advisor (ROCAP)	Elena Brineman

GRENEDA

Health/Nutrition Advisor	Letitia Diaz

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HAITI

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Population Dev. Officer	Richard Metcalfe
Health Dev Officer	Vacant
I.D.I.	Christopher S. McDermott

HONDURAS

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Health/Pop Dev Officer	Thomas E. Park

JAMAICA

Health/Pop Development Officer	John P. Coury
Asst Health Dev. Officer	Francesca Nelson

MEXICO

AID Rep (BS 01)	Samuel Taylor

PERU

Health Development Officer	Joan E. Larosa
Population Dev. Officer	Arthur H. Danart
Asst. Health Dev. Officer	Vacant
I.D.I.	Linda Lou Kelly

REGIONAL DEVELOPMENT OFFICE/CARIBBEAN

Health/Pop. Dev. Officer	Louise Berry Wise

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*FSN

V. NEAR EAST BUREAU

WASHINGTON

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Social Science Analyst	Pamela R. Johnson
Asst. Health Dev Offr	Laura L. Slobey
Asst. Health Dev Offr	Kristin K. Loken
Asst. Health Dev Offr	Ursula Nadolny
Asst Pop Dev. Offr	Gary W. Cook
Asst. Health Dev Officer	Paul H. Hartenberger
Asst. Health Dev Officer	(Nicholas G. Studzinski
Nutrition Advisor (PT)	Arthur H. Braunstein
PH Advisor (Water & Sanitation)	Kaz Kawata *

OVERSEAS

EGYPT

HRDC/Health

Health Dev. Officer (Physician)	William D. Oldham, M.D.
Asst. Health Dev. Officer	Constance L. Collins
Asst. Health Dev. Officer	John W. Wiles
Asst. Health Dev. Officer	Douglas W. Palmer

HRDC/Population

Population Dev. Officer	Lenni W. Kangas
Asst. Population Dev. Officer	John Paul James
Asst. Population Dev. Officer	Timothy S. Seims

JORDAN

Health/Population Dev Offr	Robert H. Haladay

MOROCCO

Health/Population Dev. Officer	Dale C. Gibb
Health Development Officer	Paul G. Ehmer
Asst. Population Dev. Officer	Carl Shakir Rahmaan

TUNISIA

Health Development Officer	James Vermillion **

YEMEN

Health/Population Dev. Officer	Howard B. Keller

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IV. OTHERS

PPC

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Senior Health Dev. Officer	Vacant
Population Policy Analyst	Vacant

OFDA

Health Advisor	Jack Slusser*
Asst. Health Advisor	Marlene Mayer

FS COMPLEMENT

Arjuna-Abayama-Cole	AFR/DR
Charles Witten	S&T/H

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*On loan from PHS

S&T/HP
January 30, 1985

Chairman **Leland**. Doctor, it appears that the fiscal year 1986 budget request would require sharply reduced health assistance in certain countries, for instance, in the health program in Bolivia. The health program in Bolivia is slated for a reduction from $2.7 to $1.2 million, a cut of over 95 percent. Can you explain why you would reduce health assistance to a country with one of the highest infant mortality rates in the hemisphere?

Mr. **Brady**. This is for fiscal 1986?

Chairman **Leland**. That is correct.

Mr. **Brady**. I have not taken a look at the support for that particular country, but this I am judging is a part of the fact that we are not asking for quite as much in 1986 as we were given in 1985. Here again this is part of the overall program of the administration to try to hold down expenses. It is also due to the fact that with the added funds that we have this year we recognize that all those moneys will not be spent in fiscal 1985. That probably a higher proportion of them would be spent in 1986 than in 1985. As a consequence, extra funds that were being made available to Bolivia this year would be available for them to actually spend in fiscal 1986.

Chairman **Leland**. Now, Doctor, I have a problem here. The infant mortality rate is so high that when you reduce amounts of money committed to reducing infant mortality, you are missing a tremendous opportunity.

Mr. **Brady**. Well, as a professional, I can agree with you. But as you take a look at getting the job done with the resources that are available to us, we think we are doing the best that we can under these circumstances.

Chairman **Leland**. But how can you say you are doing the best you can when, in fact, you are reducing the amount of expenditures which leaves little or no opportunity for the campaign against the infant mortality?

Mr. **Brady**. Well, as I have indicated, I do not believe the actual expenditures in 1986 will be reduced. The obligation is made this year, but there will be funds available for a continuation of that program next year. But I can check on this to be sure and correct this for the record.

Chairman **Leland**. The budget request that we have says that the amount is going to be reduced from $2.7 to $1.2 million.

Let me ask you this. Are you familiar with the fact that the administration is concerned over the amount of cocaine or coca production in Bolivia and therefore are committing less money to efforts in the reduction of infant mortality for that reason? This policy covers not just infant mortality, but other aid which could help in lessening hunger and reducing infant mortality.

Mr. **Brady**. I am not aware of any relationship between these two. There may be such a relationship, but I am not aware of it.

Chairman **Leland**. Well, I am not sure that there is a relationship between the production of cocaine or coca and the infant mortality rate, but it seems that there is an attitude that says that the amount of money given in this kind of aid, is going to be reduced because we can't get any cooperation from the government in Bolivia in the area of coca production.

Mr. Brady. It is not an attitude that I have any influence on, if it exists. I am not aware of it. As far as we are concerned, we are working on the health program and doing the best we can to fund it in such a way that we can get a continuity of efforts. And I believe by putting in extra money in 1985, some of which will be spent in 1986, that this will take place.

Chairman Leland. Well, I appreciate the professional position that you hold. I hope that AID would take another look at this and reassess its position, and I hope that you will provide leadership with your philosophy on this which is congruent with mine. I am very fearful. We are talking about losing babies. We are talking about an increase in infant mortality if, in fact, you don't have the resources available to help in this health campaign.

Let me ask you another question. What about your plans to reduce health assistance in India from $6.5 to $2.1 million? Isn't it true that more children die in India every year on the average than the entire Continent of Africa, given the crisis in Africa?

Mr. Brady. With the number of people in India, I would not be surprised if that were not the case because they do have a tremendous population and they have the same problems that I identified in my opening speech. And here again, in the case of our trying to provide resources for India, we are providing more resources this year but we fully expect that those funds will be used to a considerable extent in 1986. And as a consequence, in keeping with the total budgetary constraints that we are under, we are not asking for a larger amount for 1986.

Chairman Leland. Dr. Brady, let me ask you something, and you don't really have to answer this if you don't want to, but I am just trying to see how close we really are. I am really bothered that there are these austere budget requests from the administration representing cuts in the budget when the crisis seems to be looming. Furthermore, the military budgets that have been provided in some of the developing countries are being increased. On one hand, there has been a reduction in development aid, sometimes in half, sometimes even more than that; and on the other hand, there has been a request for increased military spending in these areas.

Can you tell me what your feelings are about this?

Mr. Brady. Well, I am not qualified to make any comment about the size of the military budget.

Chairman Leland. I mean just your personal philosophy about this.

Mr. Brady. My personal philosopy relates to that which I have been trained about, that I am concerned with, and that is in the technical side. And I am concerned that we try to have as much resources as we can associated with the process of—directly with this process of development that the health money would help us. So, naturally that was my area of primary concern.

But I don't know the military side and, as a consequence, would not be qualified to comment.

Chairman Leland. You were talking about Haiti earlier.

Mr. Brady. Yes.

Chairman Leland. The administration asked for an amount for development aid, about half that we had given before, and yet it asked for a doubling of the military aid in Haiti. Can you tell me why Haiti needs military aid from this country? Who are they protecting themselves against? They represent the poorest country in this hemisphere, they have suffering people, the illiteracy rate is incredibly high, and yet we are going to increase military aid and decrease food and other kinds of assistance aid there.

Mr. **Brady**. Here again, Mr. Chairman, I can only comment about what we are trying to do in terms of health, what we are trying to do in terms of agriculture to help the people with the problems that we know they face, and I am not qualified to comment about what we give them in terms of military.

Chairman **Leland**. Dr. Brady, you make a great politician.

I want to yield now to my colleague, Mr. Morrison.

Mr. **Morrison**. Thank you, Mr. Chairman. That is why he is here, Mr. Chairman.

Dr. Brady, maybe a little broader kind of question to you, rather than specifics about what the administration seems to be doing. Do you sense that you have as a professional in an agency where you see so much that could be done that you have access to the appropriate ears within the State Department or even in the White House on what could be a special health initiative in which the United States could take the lead in the world since we have so much technology that we could share with others? Has that effort been made to convince our leaders that that would be a very worthwhile effort? Has it been tried?

Mr. **Brady**. I think I can say that I haven't been associated with a person in the political arena that is any more concerned about and dedicated toward health initiatives than Peter McPherson. I have worked very closely with him in this business of targeting so that we are not talking about general disease, we are talking about specific problems; and I have seen how hard he has worked to bring to the attention of the public. The oral rehydration conference that we held here a couple of years ago. We are holding another one in December to try to get not only the people in the administration, but the public generally, aware of the opportunities as well as the problems these countries face.

So I don't think there is any question of what Mr. McPherson not only is committed himself, but I think he has taken steps to try to have others see the same thing. Vice President Bush took part in the inauguration of that conference. Vice President Bush went with him to Africa. And I am sure that on the plain in Africa, in addition to the agriculture problems, the health aspects were discussed between these two great leaders. So I don't think there is any question but what there are the opportunities to put these issues forward within the administration and up to the level of the White House.

Mr. **Morrison**. How do these efforts compare with past efforts? Are we doing more? Are we doing less? I know you are targeting, and I am sure you are targeting because you feel it is a more efficient way of proceeding with the funding you have. But can you give us any sort of a relative measurement on these efforts?

Mr. **Brady**. I don't think there is any question but what the—you not only have the targeting, but I think you are getting the results to show that the targeting is paying off. And the response of the public generally, the private voluntary organizations that will be talking to you later, and the Congress has responded to this need. And I don't mean just because the Agency has called it to your attention, others have done so as well.

So I think in the case of research, for example, this business of targeting on specific diseases that we know are important overseas I think is going to pay off. In terms of the service delivery, in ORT, vitamin A, immunization, I think it is going to pay off. And the results are there. The results coming out of the development already of this malaria vaccine, something that 10 or 15 years ago they said was impossible.

With new, modern biotechnology, we may be able to manufacture a vaccine without looking at the organism that causes the disease but merely by chemical synthesis. You manufacture an antigen that causes immunization.

So I don't think there is any question whether progress has been made. Maybe not as rapid as I would like to see it, but it certainly has been made.

Mr. MORRISON. I notice in your distribution of funds you work through a number of international organizations and private voluntary organizations. We will be hearing from them later. How would you assess the effectiveness of this type of investment? Do you multiply the effect of our taxpayer dollars, or could we do better if you had very rigid control over the actual delivery of services?

Mr. BRADY. Well, I think there are some kinds of activities that maybe could be best handled where there is definite control on our part, definite control on the part of the governments that we are giving the moneys to, but there are situations where I don't think there is any replacement for the use of the private voluntary organizations. Because they can get into homes, they can work without bothering with the bureaucracy that we simply cannot work with if we are dealing only with governments.

Likewise, the UNICEF, because it is the United Nations organization and has had a very good reputation in working with these governments, a very good reputation in helping to develop local private voluntary organizations, and I think it can do things that we cannot do. So what we try to do is make a selection of the country, the problem and the organization that is best suited to carry it out, and I think we have a pretty good balance at the present time.

Mr. MORRISON. Thank you, Dr. Brady. Thank you, Mr. Chairman.

Chairman LELAND. Mr. Dorgan.

Mr. DORGAN. Thank you, Mr. Chairman.

Mr. Brady, I have not been here for all of your testimony, and I apologize for that, and I hope I don't ask a question that has been asked before. But I have been very interested in UNICEF's program which deals with oral rehydration, and according to information I have seen it can cut infant mortality in half. As you have probably seen, there have been some television specials on that specific breakthrough. Yet, I notice that the administration is cutting UNICEF funding for fiscal year 1986 in half, and I am wondering what the rationale for that is.

Mr. BRADY. Are you speaking of UNICEF's allocation of funds from AID or its general?

Mr. DORGAN. Well, as I understand it, the UNICEF funding for fiscal year 1986 is being cut from $54 to $27 million.

Mr. BRADY. I see. All right, yes. This does not come through the budget of AID, it comes through the budget of the State Department. That is the reason I wanted to find out which one you were talking about. I do not know the factors that went into that decision and the decision generally of not allocating as much money as we had in the past to the U.N. organizations.

I can say that I am in agreement as a professional with your assessment of UNICEF, and that is the reason that we have called upon them to utilize $7.5 million. And furthermore, I have had very good cooperation from them in targeting on specific countries. We, again, didn't just give the money to them and say you use it as you see fit. Certain countries where we felt that they, and they agreed, could make a real contribution.

So I am quite supportive of UNICEF's efforts, but I am not qualified to comment on the rationale for the reduction in the State Department.

Mr. DORGAN. Well, following that same general line, when we passed legislation creating funds for the Child Survival Fund, we requested in the legislation and also in the intent that those funds were to be used primarily for projects of PVO's and international organizations such as UNICEF. I have noted in looking over some of the material that of $25 million only $9 million was allocated to PVO's and $7.5 million for UNICEF.

Again, because of the importance and the effectiveness of the UNICEF Child Health Program, including oral rehydration, why have we not seen more of that $25 million moving to the PVO's and to UNICEF so that we fund to the maximum extent possible those programs?

Mr. BRADY. We feel that we have made very effective use of the PVO's and UNICEF. And here again maybe it is a matter of judgment as to how much should go where, but we have tried to come up with a balance between governmental programs, between supporting private enterprise—for example, in the ORT case in Bangladesh, we are trying to help them get started in such a way that commercial enterprise would provide the packets. And we can do this, we feel, in that particular instance, for example, working better directly with the government to get this job done. In other cases we feel that it is best to work through PVO's.

So we have tried to use a balance and tried to assess what would be the best way to do this, and I believe that the balance that we have come up with does make sense. As I say, it is a matter of judgment as to how it should be done.

Mr. DORGAN. Can I get just a little more focus on that? And again I hope I am not asking a question that has been asked of you before. As I understand it, of the $25 million total in the Child Survival Fund only $9 million to PVO's and $7.5 million to UNICEF was allocated. What has happened to the remainder of the funds at this point? Are they unallocated?

Mr. BRADY. No; we have, according to the way we anticipate these funds to be used, $14 million to PVO's via our Bureau for Food and Voluntary Assistance, competitive grants, and here again we have simply said, "Now, look, these are the countries and places where we would like some help." We turned to the PVO's and said, "You will have to compete for this so that we can be sure we have got the best projects." There is $14 million that will be provided in this way; at least $8 million to PVO's in the United States and host countries via bilateral and other centrally funded projects, such as through the Science and Technology Bureau; and then the $7.5 million that we are giving to UNICEF will be spent primarily through local private voluntary organizations. So you have got about $30.5 million that would be spent in this way.

There is an additional slightly less than $8 million I think that was being spent in Africa making use of the historically black colleges and universities and associated institutions working together there. That provides some additional funds. There are about $16 million used for what we call backstopping organizations that provide help for national programs, provide help for PVO's in-country on such things as oral rehydration therapy, on such things as immunization, and so forth. Also, that is used for an expanded vitamin A treatment program where we are expanding on that remarkable result that came from the work in Indonesia, Johns Hopkins, and Helen Keller International. We are expanding that into six different countries, and that is being handled through those organizations.

In the case of oral rehydration therapy, we have already held a conference in Asia, one in Africa, and we are going to hold another one here in Washington. Those are the kinds of things that those funds are being used for to try to sensitize the leaders of these countries to these problems and to show them that their solutions are not too expensive. Those are the kinds of things we are using the money for.

Mr. Dorgan. Mr. Brady, in the remaining minute I have, let me say to you that I know that you deal with a limited area within the administration, and from all that I can tell you have a very strong commitment to the things that we do. But if you look at what this country's responsibilities and opportunities are around the world and then evaluate what we do around the world, you conclude a couple of things: First, we help a lot, there is no question about that. We provide more assistance than many other countries in the world. But, second, if you look at the mix of all the aid we provide and all the things we send around the world, part of that activity is absolutely nuts, in my judgment. I mean, if you go into the jungles of Central America or go into the sub-Saharan region of Africa and see people dying and starving for lack of just a fraction of the amount of money that we send all over this world in MAP funds and military equipment for despots all over. And that is not a Republican problem or a Democrat problem, that has been going on for some time. I just tell you that my observation, and I have shared this with my colleagues in the House, is that the total combined activity of what we are doing around the world doesn't make any sense.

We have the capacity to provide so much more help in a much more constructive way than we now do in our interests and in the interests of the people around the world. There are people that are hungry and they need something to eat. They don't need for us to send more guns to their governments. The people that are sick need medicine. The people that are illiterate need education. We have such a great opportunity in our own self-interest and especially in theirs to do the right thing, and we so seldom I think evaluate foreign policy and our responsibilities around the world in those terms.

I just would like to urge you in your capacity in this administration, and I would do the same if it were another administration, to work as hard as you can to see if we can't change the way we think about how we exert our influence around the world and at the same time provide the outreach to help human beings in this world that need the help. Because we have such a great capacity to do so and we do so little compared to what we could do.

Mr. **Brady**. Mr. Congressman, I can certainly agree. I am biased. I had the privilege of working overseas for 8 years, and I can agree that there are some of the things that we have done that maybe haven't paid off as well as others. And as a consequence of my bias, I am sort of reminded of the statement that Mr. Jamie Whitten used to make when I appeared before him. He said: "Everybody that comes before me, the only thing they want is a fair advantage." Well, that is about what I would like. I would like to have a fair advantage toward the use of science and technology over a period of time to help people, whether it be in health, whether it be in food and nutrition, whether it be in family planning. There is no question in my mind but what if I were boss I would put a higher proportion of what we spend into those longer term efforts to help people.

Mr. **Dorgan**. The point is that neither of us are in charge. We each have our own little niche. I am just saying that those of us who feel as we do have an enormous responsibility to say no to sending more military equipment to Zaire or the sub-Saharan region of Africa to respond to perceived American interests there. We could meet so many other unmet human needs that I think could so much better enhance our image abroad and also at the same time do what we ought to do abroad, and that is help human beings. I just think we who feel that way have to do everything we can to see if we can't change our thinking about those things.

Chairman **Leland**. We have about 5 minutes left on the quorum call. Why don't we suspend for 10 minutes? We will get back as soon as possible.

[Recess.]

Chairman **Leland**. Mr. Evans.

Mr. **Evans**. Thank you, Mr. Chairman.

Dr. Brady, in your testimony you talked quite a bit about immunization and the development of vaccines. You spoke very briefly about the problem of heat stability in vaccines, and that is what I would like to explore with you a bit more. Could you be a bit more specific in just what the Agency is doing on the problem of heat stability? Also, your views on how that problem ranks in terms of priority and the amount of priority being put on that particular phase. Do you view it to be more important to develop more vaccines for different diseases at this point, or is heat stability more important, and any other comments that you would like to make along that line? Also, what are the prospects of success and the time scale?

Mr. **Brady**. We are keenly interested in heat stability, and there is no question but what heat stability, lack of heat stability is a major constraint on the use of vaccines, particularly in some of the rural areas where there is no access to electricity. There are villages in Africa where electricity is essentially not available, and as a consequence, the refrigeration that we just take for granted just isn't there. So the only way that you can bring about successful vaccination programs is to come in with portable units, and that generally means the outside has to put up the money because the government can't afford it.

So one of the primary objectives we have of working with our colleagues at NIH and elsewhere in trying to develop vaccines that will be heat stable and it can be used under those circumstances.

Now, with the coming of modern biotechnology the chances of doing this have just been increased remarkably. Because in the past, you know, vaccines in some cases just attenuated. We kill the organism that caused it. Then you go ahead and put that organism in there, and because the human body recognizes that organism it builds up antibodies against it, and so we say we are vaccinated.

Well, if we can find out what it is on the surface of that organism that causes the body to create these antibodies and then can synthetically produce that, which we have done in the case of malaria, take two or three chemicals and put them together and they come up with a protein that is very similar to the one that stimulates the body to produce the antibodies. And if that happens, if it proves to be successful through our field trials, then you just synthetically produce this vaccine, it can be kept at room temperature and used accordingly.

So, we don't know in the case of some of the others the chemical structure that causes the body to produce antibodies. It may be so complex we cannot do it. But at least from what we have learned it does appear to be possible in some cases, and we want to move in that direction as rapidly as we can. So modern biotechnology really provides us opportunities that were unheard of 10 or 15 years ago.

Mr. **Evans**. Then as a general statement is it true that the synthetic vaccines are heat stable?

Mr. **Brady**. Well, as a general rule, yes, they do not have to be kept at room temperature. Because they are not live or attenuated organisms they can be used at room temperature.

Mr. **Evans**. So the general route to progress in this area is to develop synthetic vaccines for each of the diseases. Is that generally true?

Mr. **Brady**. That would be the ideal situation. I am positive there will be situations where the nature of the compound that causes the body to develop antibodies will be so complex that they will not be able to synthesize it. But I am just simply using that as an example of one that we know has happened, and that they will be looking for means of repeating that kind of a situation.

Mr. **Evans**. Are you putting money into that type of development within the Agency at this point?

Mr. **Brady**. Oh, yes.

Mr. **Evans**. Can you give us an estimate of how much? And is it an increasing priority?

Mr. BRADY. It is increasing. There is something on the order of magnitude of $25 million a year going into biomedical research of various kinds.

Mr. EVANS. But not all in this particular——

Mr. BRADY. Not all in this particular area; no, indeed not. But in the case of malaria, well, much of the research, for example, in the case of malaria, much of the money is being spent to field try the chemicals that have been produced you see.

Mr. EVANS. And where do they come from, NIH? For example, the NIH programs?

Mr. BRADY. They come from two sources. NIH has produced one candidate vaccine, and New York University with funds provided primarily by AID over the past 10 years has produced the other one. We are working with both organizations to try to field test these, I call them vaccine candidates, under actual field conditions. We are doing this in Asia, Latin America, and Africa. And that will take a period of about 4 or 5 years. The Food and Drug Administration has been working with us to be sure the methods we are using will be acceptable to them. It will take time, but, gee, when we get through with it, to have a vaccine against malaria will just be absolutely earth shaking.

Mr. EVANS. Would you say it is a high priority item in the Agency, the heat stability problem?

Mr. BRADY. The heat stability, that is a high priority. I guess I would put that under the broader rubric of the development of improved vaccines applicable for use in the developing countries whether it be for heat stability or whatever reasons.

Mr. EVANS. Thank you.

Chairman LELAND. Mr. Bereuter.

Mr. BEREUTER. Thank you, Mr. Chairman.

Dr. Brady, thank you very much for your testimony. I have several requests that I would like to make as a member of this select committee or as a member of the Foreign Affairs Committee, whichever gets me the best results. One, I would like to know more about the location, the program, and the funding of what was formerly called the cholera research lab that you referred to in your testimony; and, second, the Tropical Diseases Research Special Program. If you could provide that to me, I would appreciate it, and I will share it with the committee if the committee would desire that.

Mr. BRADY. I would be glad to do it. We are very interested in both of these organizations. I just came back last week from the World Health Assembly, and spent time talking to the scientists associated with WHO that run the tropical disease research laboratory.

[The information referred to above follows:]

LOCATION, PROGRAM, AND FUNDING OF INTERNATIONAL CENTER FOR DIARRHEAL DISEASE RESEARCH, BANGLADESH (ICDDR,B) AND SPECIAL PROGRAM OF RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR)

ICDDR,B: Initially named the Joint Pakistan-SEATO Cholera Research Laboratory, the International Center for Diarrheal Disease Research in Bangladesh (ICDDR,B) has been the locus of biomedical research into the causes, therapy, and preventive approaches to cholera and other diarrheal diseases since the early 1960's. One of the significant accomplishments of the research has been the development of an effective rehydration fliud given by mouth in oral rehydration therapy, or ORT. ORT is a simple, safe, and effective way of treating dehydration resulting from diarrhea. This technology is contributing to child survival efforts in both developed and developing countries.

From 1961 through 1979, the United States contributed $24 million to ICDDR,B and its predecessor agency. This year we are providing $2 million targeted to a 2-year field trial of a new oral cholera vaccine.

AID receives yearly reports on the scientific achievements of the projects and on the budget. The Agency will be glad to furnish these upon request.

TDR: The Special Program of Research and Training in Tropical Diseases (TDR) was established in 1976 as the international effort to focus research on those major tropical diseases for which adequate methods of treatment, prevention, and control did not yet exist. TDR is headquartered at the World Health Organization (WHO), Geneva and has worldwide activities. The program is cosponsored by some 30 donor countries and agencies through voluntary contributions amounting to about US$30 million yearly. TDR is governed by an independent Joint Coordinating Board (JCB) composed of elected representatives of donor countries and those in which tropical diseases pose major health problems.

An independent Scientific and Technical Advisory Committee meets twice yearly to provide overall coordination and scientific balance among the approximately 3,000 research projects in the world. The United States is represented on all of the scientific committees of TDR as well as on its governing bodies.

From 1976 through 1984 the total U.S. contribution was $20.2 million. We are considering additional funding for TDR over the next 5 years, beginning with a $3.2 million contribution in fiscal year 1985, tarteted to specific high priority research topics.

AID receives yearly reports on the scientific achievements of the projects and on the budget. AID has an up-to-date computer printout of U.S. scientific institutions and private organizations which have received grants or contracts from TDR. The Agency will be glad to furnish these upon request.

Mr. BEREUTER. I do not know if you have a leprosy control program in Haiti, but I would suggest that we need one there, and I would like to convey that to you.

Mr. BRADY. I appreciate that very much. I do know that we are working with the tropical disease research laboratory in an immunization for leprosy, and also a special program for using chemotherapy for leprosy.

Mr. BEREUTER. We also have active leprosy existing under the American flag, as well as typhoid problems, and I am referring to the Trust Territories of Micronesia.

Mr. BRADY. Yes.

Mr. BEREUTER. I gather that AID has no jurisdiction to assist within the trust territories, and this would I assume be only the responsibility of the Public Health Service. Would that be your understanding.

Mr. BRADY. No; in Micronesia we have a mission there, and as a matter of fact, the head of that is a health scientist.

Mr. BEREUTER. Can we control or eliminate the spread of typhoid today by vaccines and other sources? Have we pretty much got the capability to control it today and to eliminate its spread?

Mr. BRADY. Well, I would say generally yes.

Mr. BEREUTER. And yet we have the typhoid epidemic going on in Truk for over 2 years now.

Mr. BRADY. Yes; you have two problems in terms of immunization and the effectiveness of immunization under these various conditions.

Mr. BEREUTER. I would like to focus in on a situation and if you help me understand it, I am going to make a request perhaps on the basis of what you tell me. I would like to understand what the process is for us moving medicine into a foreign country where we are providing some assistance either directly through AID or through a private voluntary organization. If we are providing it directly, does AID purchase the medicine on a contractual basis, on a bid basis?

Mr. **Brady**. Well, generally speaking, anything that we purchase is purchased on a bid basis, and we view, in terms of pesticides, in terms of contraceptives, in terms of drugs of any kind——

Mr. **Bereuter**. And that purchase would routinely ordinarily be made in the United States of America?

Mr. **Brady**. Ordinarily, that is correct.

Mr. **Bereuter**. Is that medicine when it moves into, say, Bangladesh, is that medicine U.S. Government property when it moves in?

Mr. **Brady**. Depends on whether it is, in fact—for example, if one of our contractors as part of his obligation to us had the responsibility for purchasing and taking the chemical in, then he would have this responsibility.

Mr. **Bereuter**. It might be the property of the private voluntary organization or another contractor?

Mr. **Brady**. It may be if the contractor relationship required them to do this. Yes.

Mr. **Bereuter**. Do you have the opportunity to move this medicine into a foreign nation using the Military Airlift Command, so that you don't have to use commercial transportation, shipping?

Mr. **Brady**. In the first place we move chemicals into a country in accordance with that country's laws.

Mr. **Bereuter**. If it is U.S. Government property, can't we move it in however we care to move it in? Couldn't that be made a condition of the aid? Has that ever been done?

Mr. **Brady**. So far as I know it hasn't been. But I think you would run into some difficulties because after all you have the sovereignty of a country that we are dealing with.

Mr. **Bereuter**. Yes; and we are assisting that nation. I am trying to eliminate the high degree of pilfering that is taking place of U.S. medicine in some areas. The bartering, the corruption, the theft that is taking place, and not only of U.S. Government goods, but also of medicines that U.S. missionaries and medical missionaries are trying to bring into some of these countries.

Mr. **Brady**. I recognize this to be a problem, and I guess the situation would vary from country to country, but we do have to, after all these are sovereign governments and we have to work out a relationship with them.

Mr. **Bereuter**. When you establish a relationship, do you ever decide it is important that we deliver every ounce of medicine we can bring that we purchase with American taxpayers' funds? And that when we make our agreement with country *x* it will be part of our agreement that we bring the medicine in and deliver it to the private voluntary organization within that country? Is that ever a consideration?

Mr. **Brady**. I don't know that it has been, but I don't see any reason why in our negotiations with a country we cannot work out whatever relationships seem to be appropriate.

Mr. **Bereuter**. Well, I am going to ask you to concentrate on that, because the reports that I get are very bad and I am discouraged by them. I am going to make a formal request to try to cover more bases, and send it to Mr. McPherson with a copy to you, so you will have an understanding of this.

Mr. **Brady**. We will be glad to give you what information we can as to what we are now doing and what we think could be done.

Mr. **Bereuter**. I will probably ask this question as well, but I may as well surface it right here. Isn't it possible that when we have private voluntary organizations or individual physicians that go over as a contribution to deliver medical services that you might well serve as the conduit, the U.S. Government might serve as the conduit to eliminate some of the problems we are having at customs points today? I will ask that question as well.

Mr. **Brady**. We will take that into consideration and give you the best answer we can.

Mr. **Bereuter**. Finally, I would ask you to go back and look at the situation as to whether or not you have jurisdiction to deliver assistance in the trust territories?

Mr. **Brady**. I will doublecheck on this, but as I say a person that used to work for me is in fact the so-called mission director there. We will give you what information we can in terms of actually what we do and what our authority is.

Mr. **Bereuter**. Thank you very much. Thank you, Mr. Chairman.

Chairman **Leland**. Dr. Brady, the new research findings on vitamin A programs show that they have a dramatic impact on reducing disease and death rates among children in less developed countries; yet, your budget has no allocation for vitamin A activities in the Office of Nutrition. Why is AID reducing its commitment to support vitamin A programs in fiscal year 1986?

Mr. **Brady**. Are you referring to the 1986 budget request, Mr. Chairman? Well, this is in the same category as the other activities. We are moving forward, as I indicated, in six countries to try to get a replication of what took place in Indonesia. But here again, with the funds available in 1985 we are anticipating that the rate of expenditure would be, with the rate at which we are asking for funds in 1986, would be kept up in 1986 fully as high, if not higher, than in 1985. And we do hope that the results will be positive and that we will be able to seek additional resources for this in the future.

Chairman **Leland**. We have been informed that some USAID mission directors state that they are extremely short of funds for health and nutrition programs and of technical experts in the health field. Given the large increases in funding for health and nutrition programs this year, why does this situation exist? I know it refers back to what you said earlier, but some of your officials are the ones who are making these statements.

Mr. **Brady**. It is a problem, and as I have indicated, we think we are working out arrangements by means of which we can provide the technical expertise that is necessary without having to increase our direct hire personnel to do so.

Chairman **Leland**. These are matters of budget constraints; is that not correct? You are not necessarily saying that the reduction in personnel of resources available are attributable to the fact you can do it better, it is just a matter that you have to do it better?

Mr. **Brady**. The combination of a reduction of overall direct hire personnel and my desire to see to it the job gets done, and we come up with a combination that we are getting more help from the outside even though the personnel numbers are going down somewhat.

Chairman **Leland**. Dr. Brady, we might have some other questions of you. We will keep the record open and submit those questions in writing. We would appreciate a response from you.

Mr. **Brady**. Thank you, Mr. Chairman.

Chairman **Leland**. Thank you very much.

Our next witness is Dr. Carlyle Guerra de Macedo, the director of the Pan American Health Organization. Dr. Macedo is actively involved in promoting and providing technical assistance for health programs in the Americas. Dr. Guerra de Macedo will address current activities in the Expanded Program on Immunization and his agency's new plan to eradicate polio in the hemisphere by 1990.

Dr. Macedo, you may proceed and, if you would, introduce your colleagues.

STATEMENT OF CARLYLE GUERRA de MACEDO, M.D., DIRECTOR, PAN AMERICAN HEALTH ORGANIZATION, ACCOMPANIED BY GEORGE ALLEYNE, M.D., DIRECTOR, HEALTH PROGRAMS DEVELOPMENT, AND CIRO de QUADROS, M.D., REGIONAL ADVISOR, EXPANDED PROGRAM ON IMMUNIZATION [EPI]

Dr. **Guerra de Macedo**. Thank you very much, Mr. Chairman. I have at my right Dr. George Alleyne, who is the director of the Health Programs Development, Pan American Health Organization, and Dr. Ciro de Quadros, who is the coordinator of the Expanded Program on Immunization in the Americas Region.

Chairman **Leland**. Very good. You may proceed.

Dr. **Guerra de Macedo**. Mr. Chairman, Congressmen, it is a privilege to be asked to testify this morning before the Select Committee on Hunger of the U.S. House of Representatives.

As you said, I am the director of the Pan American Health Organization [PAHO] and the regional director of the World Health Organization for the region of the Americas.

The Pan American Health Organization was established in 1902 to promote and coordinate the efforts of the Western Hemisphere countries to combat disease, lengthen life, and promote the physical and mental health of their people. The organization emphasizes the effective application of existing knowledge to solve health problems and to strive for technical excellence. We are, indeed, an agency for technical operation and health is our business.

As the regional office of the World Health Organization in this hemisphere, PAHO has a permanent thrust for working with its member countries in pursuit of the universal goal of health for all by the year 2000. That responsibility is even greater when it touches our children.

Throughout the world, some 5 million children under 5 years of age die each year from diseases which we can prevent with medicines and relatively common technology available to us today. I repeat, 5 million children.

In the countries of the Americas, 800,000 children die each year from preventable diseases, as many children as the number of people who live in this city. It is as if an entire city the size of Washington, its inhabitants only children, were to be destroyed every year.

The tragedy is that those lives are lost not because we do not know how to prevent or control those diseases, but because we have failed to assure all children access to the benefits of the knowledge we possess.

Perhaps the most effective and efficient of all the health technologies known to man is immunization. Scientists have developed the effective vaccines which protect against most of the childhood infectious diseases. Yet, 80 percent of the world's children do not receive that protection. Even here in the Americas, 4 million children born every year do not yet have access to vaccination against those childhood killer diseases.

Around the world, every 6 seconds, one child dies and another is disabled because of the failure to immunize against those diseases. PAHO and WHO have undertaken a global commitment to meet that challenge.

The Expanded Program on Immunization [EPI] was initiated by a 1974 World Health Assembly resolution and was endorsed by the Americas in 1977. Since its inception in 1977, the EPI Program in the Americas has made considerable progress. More than 15,000 health workers have been trained in EPI workshops. Most countries have made notable strides in improving and expanding the equipment and procedures used in the cold chain to assure the potency of vaccines. Schools of public health in the region have been actively involved in EPI training programs.

PAHO created the EPI revolving fund in 1977 which has assisted countries in the region with vaccine purchases worth more than $19 million. This fund has contributed to improved vaccine quality and assured the availability of vaccines at the country level.

Since November 1980, PAHO has collaborated with 18 countries in the Americas in conducting comprehensive EPI program evaluations. The organization has worked with countries to provide technical updates and recent program data through the PAHO EPI newsletter, which is published bimonthly in English and Spanish and distributed to more than 10,000 health workers in the Americas.

PAHO has collaborated with other organizations which support immunization activities including UNICEF, USAID, Rotary International, and the Bellagio Task Force for Child Survival.

The improvements in the control of paralytic poliomyelitis in the Americas since the start of the EPI initiative have been remarkable. In the Americas, the proportion of children less than 1 year of age who have received the recommended three doses of polio vaccine has increased from 34.6 percent in 1978 to more than 75 percent in 1984. The number of reported cases of paralytic polio has decreased by 90 percent from 4,728 reported cases in 1979 to 489 in 1984. A major contribution to the increased polio vaccine coverage and decreased paralytic polio morbidity have been special immunization programs emphasizing oral polio vaccination in Bolivia, Brazil, Colombia, Mexico, Dominican Republic, and Nicaragua, and last of all in El Salvador.

An additional effort in priority countries specifically directed at polio can lead to the interruption of indigenous transmission of wild polio virus in the Western Hemisphere in the next 5 years. The eradication of indigenous transmission of wild polio virus in the Americas deserves immediate hemispheric action.

It is unacceptable, given the technology presently available, that any child in this hemisphere should suffer paralytic poliomyelitis. I announced, as you said, Mr. Chairman, 2 days ago, a PAHO plan of action to eradicate polio in this hemisphere by 1990. It has the following objectives:

First, promote overall development of the EPI Program in the Americas.

Second, eradicate indigenous transmission of wild polio virus in the Americas by the year 1990.

And third, improve disease surveillance in the region at the country level to assure that all suspected cases of polio are immediately investigated and control measures instituted that will stop transmission within 1 month of the first identification of an outbreak.

Intensified surveillance is critical for the success of this initiative and the EPI in general. All suspect cases of poliomyelitis must be considered public health emergencies and thoroughly investigated immediately. The laboratory support for virus isolation and serological testing in the region must be strengthened.

We must put an end, once and for all, to the spectre of crippling disease which still looms before the children of the Americas. Without the eradication of the polio virus, the chances of a sudden outbreak of polio still exists. Eliminating the virus from this hemisphere is the only sure way to protect our children from the threat of that disease.

The most critical element for the success of this initiative is political commitment of the national governments and support of international agencies. PAHO will coordinate the efforts to secure additional financial and technical assistance. It is estimated that $100 million will be needed over the next 5 years to cover additional personnel, laboratory support, improved surveillance and outbreak control, vaccine quality assurance, and cold chain development.

I am convinced, Mr. Chairman and Congressmen, that this commitment of the nations of the Americas to eradicate polio will not fail because of the lack of financial resources. The long-term economic return will far outweigh the actual costs of the efforts. Also, my personal conviction is that it is time we stop using economic indicators alone to measure the well-being of children.

We are proposing that the member countries of PAHO be supported by all of us in a massive final 5-year effort to achieve the eradication of polio from the Americas. The time has come for us to say that it is unacceptable for any child in the Americas to suffer from polio.

I hope that the Congress of the United States will support us in these efforts to improve the health of the children of the Americas, and in spite of all the struggles, to improve the health conditions throughout the region.

Thank you, Mr. Chairman.

Chairman **Leland**. Thank you, Dr. Macedo.

Responses to Questions for Carlyle Guerra de Macedo, M.D.

QUESTIONS SUBMITTED BY HON. MICKEY LELAND

Question. How does your agency coordinate with the work of AID to meet the goals of the Expanded Program of Immunization—EPI?

Answer. The first line of coordination with AID is at the level of countries, specifically with the offices which our organization maintains in each one of these countries and through which most of our technical cooperation is delivered. Within the strategy developed by each country, bilateral agencies, such as AID, provide inputs to national programs. We maintain close working relations with AID country offices to insure their active participation in immunization programs. In that way, AID provided a contribution to the El Salvadors nationwide immunization campaign.

The second line of coordination occurs at our central office and AID's Washington headquarters and we exchange technical information on country programs with the health office in the AID's Latin America Bureau.

PAHO has also sponsored meetings, involving the director and senior staff, with the AID Assistant Administrator for Latin America and the AID Administrator at least twice a year.

During the past year, we have provided technical experts to work with AID missions in planning cooperation for national immunization programs, such as in Ecuador and Guatemala. In both countries, our personnel worked together with nationals and AID personnel in preparing plans of operations to be implemented in the next 3 years. AID personnel always are invited to participate in PAHO sponsored meetings and evaluations of EPI programs in our region.

PAHO is the executing agency for AID-supported projects dealing with nutrition and malaria control in Central America and the same could apply in the area of immunization.

Question. There is currently legislation pending before Congress which sets a goal of immunizing 3 million children receiving benefits from the Public Law 480, Food for Peace Program. It was the intent that children being brought to food distribution centers also receive this crucial preventive health care at the same time. How can PAHO assist private voluntary organizations involved in food distribution programs to implement immunization programs?

Answer. PAHO can provide technical assistance to these private voluntary organizations to implement their immunization efforts within the strategies of the national immunization program of the country under consideration. We can also serve as a coordinating agency to the PVO's that may operate in particular area or country. PAHO could be the executing agency for funds use to implement the immunization portion of the program.

With regard to the encouragement of immunization efforts for those children brought to food distribution centers, there are several possibilities. Food distribution centers might be located in close proximity to health clinics in a particular country. In countries where national immunization days occur, the food distribution centers could be designated as immunization sites. Finally, all food distribution centers could be centers for monitoring of immunization so that immunization cards have to be shown when individuals arrive to receive food. In that way, the food distribution visits could be a normal part of the immunization monitoring system in those countries.

Question. How can the U.S. Congress assist you in meeting the ambitious goals of your agency?

Answer. The U.S. Congress can be of great assistance in several ways. Your committee's hearing provide a useful mechanism for alerting public opinion to the importance of immunization and to the challenge which persists in the developing world. Congressional support for the polio eradication campaign and for the overall EPI goals can be registered through the hearing process and through specific positive congressional action. Congressional resolutions can reflect that support as can more substantive congressional action. Authorizing the use of funds for immunization obviously is the most direct form of positive encouragement. As you know, we anticipate that the polio eradication campaign, will require some $30 million over the next 5 years to achieve the goal of eliminating polio in the Western Hemisphere. A specific provision in law providing funds to PAHO to cover a portion of that cost over each of the next 5 years would be a major contribution to the overall goal of removing this fearsome childhood disease from our region. Obviously, congressional approval of full funding of the U.S. assessed contribution to the PAHO budget also will help us in our effort to promote the immunization of children against polio and the other childhood infectious diseases.

[The prepared statement of Dr. Guerra de Macedo appears at the conclusion of the hearing, see p. 66.]

Chairman LELAND. I just returned from a conference in Mexico, the Interparliamentary Council. About 15 Members from the U.S. Congress met with the Members of Congress of Mexico. I raised the problems of diseases and illnesses in Mexico particularly as they relate to children. I understand that they have a very high infant mortality rate.

I would like to ask how many of the 800,000 children who die in the Americas are Mexican children?

Dr. GUERRA DE MACEDO. I can give you only a very broad estimate about this. Mexico has at this moment actually one of the highest levels of infant mortality, and I can estimate that is approximately 25 percent of this total.

Chairman LELAND. Twenty-five percent of the 800,000?

Dr. GUERRA DE MACEDO. Twenty-five percent of the 800,000.

Chairman LELAND. How many of the 4 million children of the Americas that you talked about are included?

Dr. GUERRA DE MACEDO. Four million of the children born every year do not have access to vaccination.

Chairman LELAND. How many of them are Mexican children?

Dr. GUERRA DE MACEDO. Again, I think it is somewhat more than the 25 percent I mentioned some moments ago.

Chairman LELAND. More than 25 percent?

Dr. GUERRA DE MACEDO. More than 25 percent.

Chairman LELAND. To what extent have the wars in Nicaragua and El Salvador complicated the campaign that you have been waging?

Dr. GUERRA DE MACEDO. Let me make use of the opportunity this question gives me to make a general comment. I don't want to make any comment about the political, economic or——

Chairman LELAND. Dr. Macedo, this is the Select Committee on Hunger, by the way, it is not the Foreign Affairs Committee.

Dr. GUERRA DE MACEDO. No, no, I will not comment on the reasons for the conflict among the countries. But from the point of view of health, the war is the worst disease we have. In the specific case of the conflicts in Central America, the situation of war impacts on the health effort at least in three ways:

The first one is by preventing health activities from reaching some localities, special regions within the countries where there are many people living.

The second one is by generating a very huge number of people living in precarious conditions out of their homes. We estimate at this moment that we have in Central America or in the neighboring countries of Central America almost 1 million displaced people.

And the third one is that the countries have to use their scarce resources to support the effort of war and not the effort of health.

I think the situation of war or conflict in Central America is one of the most important factors which affect the development of the health initiative. For that reason, Mr. President, the Pan American Health Organization has developed with the countries of the region a very important program. We have put the six countries, the five countries of Central America plus Panama, and now plus Belize, to work together to solve some of the highest priority health needs in that region.

During the last 1½ years we have worked together, and I think at this moment health is one of the last fields of human activity in that region in which we can maintain dialog, understanding, and cooperation.

Chairman **Leland**. Very good. How does your agency coordinate with the work of AID to meet the goals of the Expanded Program of Immunization?

Dr. **Guerra de Macedo**. The USAID has helped the Expanded Program on Immunization on various occasions and in various places. Especially I recall the contributions given by USAID in Ecuador, very recently, in El Salvador, in the Dominican Republic, in Bolivia, and also in Colombia last year. I have to say that I expect that this collaboration can be increased in the future.

Chairman **Leland**. You state that political commitment of national governments will be needed, an estimated $100 million in resources. What percentage of that total funding would be required from the United States to meet this goal?

Dr. **Guerra de Macedo**. I don't have a figure, a specific figure for the United States. We estimate that we will need about $30 million of this total figure from external sources. I think one part, a very important part of this $30 million from external sources has to be or can be given by the U.S. Government.

Chairman **Leland**. Let me now ask my colleagues if they have questions.

Mr. Evans.

Mr. **Evans**. Well, thank you, Mr. Chairman. Yes, I have one or two for the doctor here.

I notice your goal is to eradicate the indigenous transmission by 1990, and we wish you all success in achieving that. I am curious as to what is going to be necessary after 1990 in the way of follow-on efforts.

Dr. **Guerra de Macedo**. The EPI Program has established its goal for this date, specifically 1990. In the case of polio, the epidemiological conditions of the disease show that it is possible to eradicate the transmission in 3 years. But we have established the 5-year period because we want to be sure about——

Mr. **Evans**. Once you have achieved that goal, is there a danger of it coming back? This is what I am getting at. And what follow-on efforts are necessary to prevent a resurgence of polio in the Americas? Any?

Dr. **Guerra de Macedo**. After the 1990's, because the eradication will be only in this hemisphere it will be necessary to continue the services, and a very, very important effort in terms of services to avoid the importation of cases and the development of new outbreaks of the disease in this hemisphere.

Mr. **Evans**. Do you see a continuing need for immunization of all children against polio after 1990?

Dr. **Guerra de Macedo**. Not necessarily as we do now. We need to be aware of the need that we immediately identify any case and to take the necessary measures to avoid the dissemination of the disease.

Mr. **Evans**. So it would be principally surveillance in your judgment to make sure there is not a new outbreak somewhere that gets out of control?

Dr. **Guerra de Macedo**. Yes. if we wish to succeed it will be critical to establish a very good system of surveillance services.

[Letter to Mr. Evans appears at the conclusion of the hearing, see p. 88.]

Mr. **Evans**. I had asked the earlier witness about heat stable vaccines, and I notice you make a point several places here of the cold chain costs. Can you give the committee some idea of the fraction of the costs, the percentage of costs in a program like this that are required for the Cold Chain Program?

Dr. **Guerra de Macedo**. We estimate about $10 million.

Mr. **Evans**. Out of a total of?

Dr. **Guerra de Macedo**. I am estimating the total cost of the cold chain, its establishment, the maintenance, et cetera, in the Americas during the 5 years.

Mr. **Evans**. Then $10 million out of $100 million; is that right?

Dr. **Guerra de Macedo**. Yes.

Mr. **Evans**. Thank you very much, Mr. Chairman.

Chairman **Leland**. Mr. Bereuter.

Mr. **Bereuter**. Thank you, Mr. Chairman.

Dr. Guerra, I want to commend you on your leadership on the polio eradication program. When was the program announced? Very recently? I noticed the congratulatory messages are in May.

Dr. **Guerra de Macedo**. Two days ago we met in the Pan American Health Organization with representatives of most of the principal agencies interested in this problem, in the presence of ministers of health representing their own as well as all the other countries of the Americas and some of the scientists who were especially responsible for the scientific developments in the field of polio, for example, Dr. Sabin, Dr. Salk, Dr. Weller, and Dr. Robins, and we made the announcement together.

Mr. **Bereuter**. Well, it is probably too early to answer this question definitively, but are there any indications that any nations are not going to be cooperative or enthusiastically involved? Does it appear that you are likely to have universal involvement?

Dr. **Guerra de Macedo**. In the case of the countries of the Americas, no. I have the support of every government, all the governments of the region. I have had the opportunity to discuss this special goal with the national authorities of all countries.

Mr. **Bereuter**. So there are no exceptions at this point?

Dr. **Guerra de Macedo**. There is no exception.

Mr. **Bereuter**. Right. On a different subject, what is your assessment of the condition in Haiti with respect to leprosy?

Dr. **Guerra de Macedo**. Leprosy. First I will make a general statement, and then I would like to ask Dr. Alleyne to give some more specific information.

Haiti presents a very difficult situation. There are very difficult conditions in every aspect of health, and in the case of leprosy, this is not an exception.

But about the specific information I would like to ask Dr. Alleyne to answer to your question.

Dr. **Alleyne**. Thank you very much, Dr. Macedo.

First of all, it is impossible to give any figures of the exact number of cases of leprosy in Haiti. The surveillance systems, the reporting systems, the health information systems do not allow us to comment with any exactitude on the number of cases in Haiti.

In terms of programs in Haiti, the Pan American Health Organization as well as other agencies have been actively trying to introduce chemotherapy programs, but these have not been as successful as they might be because of the basic problem of maintenance of infrastructure in Haiti. Because of the difficulty of health infrastructure, it makes it incredibly difficult to maintain programs for leprosy therapy with any continuity. And as we know, for programs of leprosy therapy continuity of therapy is essential. We cannot give you precise figures as to the numbers of cases; and we can only be very sketchy as to the number of cures that have been achieved. It is a lamentable situation.

Mr. **Bereuter**. Are there any difficulties for the professionals in terms of accessibility to the people suffering from leprosy? I understand that in very isolated portions of the country, even though it is a small country, you have a surprising number of people suffering from leprosy, and I am not sure how accessible they are.

Dr. **Alleyne**. There are two kinds of accessibility: physical accessibility in terms of territory, and there is also accessibility in terms of numbers of health workers available to get to these particular places. Unfortunately, this does not apply only to leprosy. In the case of malaria, it is basically the same problem, inability to have access to the places that need it most and the people that need it most.

Mr. **Bereuter**. Thank you. Thank you, Mr. Chairman.

Chairman **Leland**. Thank you.

Doctor, Rotary International has announced its plan to provide funds for polio vaccines from now until the year 2005 for the express purpose of eliminating polio worldwide. It 's estimated that such a campaign will cost $120 million. Rotary International has indicated its willingness to underwrite these expenses.

Could you describe just a little bit how Rotary International is involved in your eradication campaign?

Dr. **Guerra de Macedo**. The Rotary International has committed itself to provide during the next 5 years, all the vaccines we need to develop the program we are proposing, also to support some of the costs of the cold chain, and eventually to help us in the development of operations in general. But I think one of the most important contributions that the Rotary International can make to the countries of the Americas is the mobilization of its members at the country level. They can be asked to participate as leaders in the mobilization of the communities, the families, and the people to accept and to help in the development of the work.

Chairman **Leland**. There is currently legislation pending before our Congress which sets a goal of immunizing 3 million children receiving benefits from Public Law 480, the Food for Peace Program. It was the intent that children being brought to food distribution centers also receive this crucial preventive health care at the same time.

How can PAHO assist private voluntary organizations involved in food distribution programs to implement immunization programs?

Dr. **GUERRA DE MACEDO**. Let me take advantage of your question, Mr. Chairman, to make a general statement about the problem of food and nutrition in the Americas. We think that undernutrition or the problems related to food and nutrition is individually the most important health problem in this region. We estimate that about 100 million people at this moment suffer some manifestation of undernutrition. PAHO is therefore very interested in this problem and we have a special program directed to help the countries in the improvement of the nutrition conditions of the peoples in the Americas.

We think that the relationship between nutrition and infectious diseases including the diseases preventable by immunization, presents a very good opportunity to use the activities in the field of food to promote the efforts in immunization. PAHO is very willing to work with any organization to promote activities in this field.

Chairman **LELAND**. Very good. Doctor, we thank you for your contribution here today as well as your campaign to eliminate polio in the Americas, and we wish you well. Thank you very much. And I thank your colleagues.

Dr. **GUERRA DE MACEDO**. Thank you.

Chairman **LELAND**. Our next panel is made up of Dr. Alfred Sommer of Johns Hopkins University and Mr. John Costello, executive director of Helen Keller International. They will discuss research and programs of vitamin A supplementation which not only prevent blindness but can also save lives.

STATEMENT OF ALFRED SOMMER, M.D., DIRECTOR, DANA CENTER FOR PREVENTIVE OPHTHALMOLOGY, THE JOHNS HOPKINS MEDICAL INSTITUTIONS

Dr. **SOMMER**. Thank you, Mr. Chairman.

It was earlier asked that I make a presentation using slides and material. Would you still like me to proceed with that?

The Chairman **LELAND**. Sure. Absolutely.

Dr. **SOMMER**. We are going to dim the lights a little bit.

[Slide.] This is to give you a background into how we ended up where we were, which was a place we hadn't started out for. The work that we have carried out over the years, very much under AID funding, help to demonstrate around the world the geographic distribution of vitamin A deficiency, the severity of the problem, and to begin to develop ways to work with governments in preventing Vitamin A deficiency and treating the presence of the disease.

[Slide.] Now, just to give you background of where we came from it was originally from the point of view of the ocular manifestations. Those are the most dramatic, and those are the ones that people have been looking at over the last 50 years. One of the things we are able to demonstrate is that it is a significant problem: 5 to 10 million a year develop ocular manifestations of vitamin A deficiency, and one quarter of these children go blind every year from severe xerophthalmia, or vitamin A deficiency.

[Slide.] The ocular manifestations begin in a very mild sort of way with the onset of night blindness. This is a rather crude attempt to demonstrate what a child experiences. When a child can see normally, when he has a normal amount of vitamin A, when he goes into the village hut in the evening or is walking around the village at night, he can see his food, he can find his toys, and what have you, simply by candlelight or moonlight.

At the onset of early vitamin A deficiency you are unable to see well at night, and the child often will sit huddled in a corner of a room simply because he can't see his food that is sitting in front of him, or see his toys around the hut.

[Slide.] With more severe deficiency, you get what is known as keratinizing metaplasia. The outside of the eye starts to turn into a skinlike structure—and I think you can appreciate that inferiorally here—and the normally smooth part of the eye, the front cornea, which is clear and we see through, begins to become very granular and skinlike as well.

[Slide.] With more severe deficiency, you begin to get ulceration of the cornea.

[Slide.] With more severe deficiency, melting of the cornea. And this is a lucky child because it was only in the periphery, and by treating this child immediately with vitamin A we were able to save not only the eye but his vision.

[Slide.] But with really severe deficiency, the entire cornea melts away, and that is what happens to 250,000 children every year and they are irrevocably blind.

[Slide.] This is a typical child with severe vitamin A deficiency, also severely malnourished, swollen legs from kwashiorkor, thin arms from marasmus—generally vitamin A deficient.

[Slide.] These children are severely vitamin A deficient, they are severely malnourished, they are severely ill, and 50 to 80 percent of them die. We knew that. We documented that in the past, and we tried to work out ways to prevent this and to deal with these severely ill children.

[Slide.] This was the surprise, and this is something we have only learned about in the last couple of years. This child is obviously generally well nourished, also generally healthy looking, and also has normal looking eyes. But this child came to us with night blindness, the earliest mild manifestation of vitamin A deficiency.

[Slide.] And what was surprising is when we looked at some of our studies that had been set up to study ocular effects and turn them around on their head, what we found, quite unexpectedly, is that children with mild xerophthalmia, otherwise normally nourished, without other illnesses beforehand were having a marked increase in their death rate compared to children living next door who did not have mild xerophthalmia, mild vitamin A deficiency.

[Slide.] In fact, this is simply a graph which indicates if you compare children who had mild ocular signs, night blindness, with the mortality rate of the children who had normal eyes coming from exactly the same villages, what you find is that in every age group the children with the mild xerophthalmia had a marked increase in mortality; depending upon the age group, from 4 to 16 times the rate of the children living next door.

[Slide.] The reason for this appears to be that the children with the mild vitamin A deficiency have a three to fourfold increased risk of respiratory disease and diarrhea, which of course are the major causes of childhood deaths around the world.

[Slide.] Well, having found that out from an observational study and quite accidentally, we then planned a major research initiative which would answer the question of whether or not vitamin A supplementation would significantly reduce the mortality and the morbidity in children.

[Slide.] The study that was carried out was carried out in Aceh Province in northern Sumatra in Indonesia. It was a USAID-funded study that lasted 3 years. There were 30,000 Indonesian children who were enrolled in this study living in 450 villages.

Now, the Indonesian Government was committed to expanding, because of the blinding nature of vitamin A deficiency, expanding vitamin A distribution to this area, but they could not expand it to all the villages over a short period of time. So working with Indonesian colleagues, we were given the opportunity to randomize the villages which would be getting the program first versus those that would be getting the program phased in subsequently.

Half of the villages were randomized to receive a vitamin A capsule distribution program, which meant that in theory every child in the village got one dose of vitamin A, a large dose, 200,000 units; one dose every 6 months. The children were all examined before the start of the program and were examined 1 year later. Of course, any child who, during the examination, was found to evidence of vitamin A deficiency was treated.

[Slide.] Just to give you a flavor for what goes on in such an activity, this is a village health worker, part of the study team, who has mapped out all the houses in the village and enumerated all the people who live there.

[Slide.] They then place an identifying sign on every house so that we know what children live in which houses, so they can be revisited.

[Slide.] We have statisticians and epidemiologists and nutritionists from the States who spend a good deal of time in the field under sometimes rather precarious circumstances helping to organize the activities.

[Slide.] We try to bring high technology, such as a jeep, for getting around in the field. That sometimes proves a little bit difficult.

[Slide.] People were tremendously cooperative and understanding of the project and wanting to help carry it out. These are Indonesians gathering around for their examinations.

[Slide.] The children had their height measured. They loved to be weighed, there is absolutely no doubt about that.

[Slide.] One collects a history of diseases from the mothers.

[Slide.] As you get the children together, that results in large numbers of forms, unfortunately.

[Slide.] And increasingly large numbers of forms.

[Slide.] Again we bring in some modern U.S. technology, these small microcomputers. This happens to be a model, the first model on the market, and the nice thing about it is it fits underneath your airplane seat, so that you can carry it in with you without having much of a fuss with customs or worrying about it breaking en route.

[Slide.] The bottom line of that study, which was completed about 6 months ago and is now in the process of being written up, is that the mortality rate in the control villages was essentially 50 percent higher than it was in the villages that had the dosing program. Or turn it on its head, that vitamin A distribution reduced childhood mortality in the 1- to 5-year age group, which was the only age group eligible to receive the vitamin A under the Indonesian scheme, by a third.

A rather remarkable impact, but one that we had predicted from our earlier research.

[Slide.] The mechanism probably has to do with that abnormal surface that I showed you on the outside of the eye where it starts to turn like skin, because bacteria love to grow on that and through that abnormal skin they can get through into the systemic circulation.

[Slide.] Now, this shouldn't really all be that surprising if we look back at the early literature, the very early studies that were done on vitamin A deficiency. On those done in the 1920's and 1930's, first on animals and then on autopsied children in Boston, MA, of all places, demonstrated that the earliest changes of vitamin A deficiency, including in Boston, MA, were the skinlike changes in the respiratory tract, in the urinary tract and in the intestinal tract, and that these changes occurred in these very important organs before they actually occurred to the eye. But you didn't see them clinically because they were hidden, where you could see what was happening to the eye because it was obvious to an observer.

[Slide.] Bloch, who was a Danish physician in 1920, who really first discovered the link between vitamin A deficiency and disease, actually called it an anti-infection factor. Because he found that children in the orphanage in which he found the disease had a very high level of urinary tract infections, and when he gave them vitamin A the urinary tract infections went away. This observation was recently repeated in Bangladesh.

[Slide.] And last, if one looks at animal experiments over the years, every time one tries to study the effects of vitamin A deficiency on the eye it turns out to be very difficult because most of the animals died before they developed their eye changes. And if you put the animals into a germ-free environment, then the animals survive.

[Slide.] This slide reminds me of the fact that there is another aspect of the problem and some more preliminary data that I would like to share with you which we are not yet ready to publish.

There is nothing quite as exuberant as healthy African children attending school, and this is schoolchildren in Malawi.

[Slide.] In the same school are these children, and these are blind African children. They were blinded by measles. Eighty percent of the blindness in Africa in children is due to measles. Now, the question is why does measles cause blindness in Africa? It doesn't cause blindness in the United States; at least, not anymore.

Some research we have carried out suggests that a very large proportion of this blindness is because the children suffer acute vitamin A deficiency. They have a borderline vitamin A status to start with. They get measles, which severely interferes with vitamin A metabolism. The vitamin A status goes through the floor, and they go blind.

Acting upon that theory a mission hospital working with us in Tanzania began to administer high doses of vitamin A to alternate children who were coming in with measles, although all children were treated in the manner in which they usually were treated. The preliminary results from that study is that the mortality rate amongst measles children given vitamin A was only half the mortality rate amongst the measles children not given vitamin A, supporting those observations that were made in the studies in Indonesia.

[Slide.] So, the significance I think is obvious. There are 5 to 10 million children who developed eye signs of vitamin A deficiency every year. There are at least twice that many with subclinical vitamin A deficiency and are at increased risk of dying because of that or an increased risk of having respiratory disease and of diarrhea. And that it would appear that at least in some countries, and one of the things we now have to find out is how many other areas of the world, that mild vitamin A deficiency may account for 20 to 30 percent of all childhood deaths.

[Slide.] There is a number of ways to go after this problem. The three traditional ones that we have all been focusing on and getting experience on is this periodic distribution of high dose vitamin A capsules, and UNICEF has programs in many parts of the world where it provides free of charge to the country millions of these vitamin A capsules.

[Slide.] An alternative is finding some item that everybody consumes on a regular basis and fortifying that with vitamin A, much like our salt here in the States is fortified with iodine. This is an example. This is monosodium glutimate, what we think of as Accent here in the States, which pilot trials in the Philippines and now in Indonesia indicate can be successfully fortified with vitamin A. It is well accepted by the population. It is an inexpensive way to deliver vitamin A to the community.

[Slide.] And hopefully the long-range solution to the problem being getting people to eat more foods that have vitamin A in them that are already available or which can be easily grown.

That is what I wanted to say about the disease itself and about our findings. Perhaps I would like to close with just a couple of comments. One is that I would like to indicate that much of the work we are carrying out and others have been carrying out in this area over the past 15 years has been done with the encouragement and support of USAID, that we wouldn't be in a position to attack the problem that we are in today if it had not been for that support, and that we now face a rather critical juncture where we have a good deal of knowledge, we have these new exciting results that we can impact on child survival given what we now know about how to control vitamin A deficiency, and we would certainly like to see this committee help AID meet the challenge that stands before them, and meet it on a regular, ongoing, continuing basis.

The sudden availability of funds does make for difficulties as Dr. Brady suggested. It is very difficult to suddenly tool up and tool up efficiently and effectively especially when suddenly the next year those funds aren't there again and then one has to download, and then the next time the funds are available one has to tool up again. And if there is a sustained input of support and resources, one only has to tool up once and then continue to move along at that higher rate. Thank you.

[The prepared statement of Dr. Sommer appears at the conclusion of the hearing, see p. 90.]

Chairman **Leland**. Mr. Costello.

STATEMENT OF JOHN H. COSTELLO, EXECUTIVE DIRECTOR, HELEN KELLER INTERNATIONAL

Mr. **Costello**. I would like to briefly summarize my written testimony and amplify one or two of the points that Dr. Sommer made. I particularly would like to highlight the role of a private voluntary organization in addressing and forming potential solutions to a major human problem, and I also want to comment very briefly on the concern I have with regard to the current levels of health funding as recommended in the budget presentation by the Congress in fiscal year 1986-87.

The current famine in Africa, recent events in Asia, and chronic food shortages for millions of young people make clear the urgency of increased health and nutrition programs for the well-being of this and future generations. I would like to borrow a phrase from Jim Grant: That the needs of these children truly have ignited the child survival revolution which has stirred the hearts and imaginations of all Americans.

And because I represent a private voluntary organization that has spent nearly 15 years on epidemiological and operational research with a single nutrient, vitamin A, I will draw on the results of that research, and the implications of vitamin A deficiency. I truly believe we are now adding a new salvo to the child survival revolution which is sweeping our country and the rest of the world. Vitamin A is now a full-fledged part of the child survival strategy. It is simple, low cost, it is an easy to deliver intervention that saves the sight and the lives, as we now know, of millions of the world's most vulnerable children.

HKI, you may or may not know, is one of the oldest private voluntary organizations in the United States. We were founded in 1915 as a result of World War I, and we concerned ourselves with providing rehabilitation programs to the Allied soldiers and the victims in Europe that were blinded during the war. Later, we concentrated on education and rehabilitation of overseas blind. But for the last 15 years we have been the leading institution involved in promoting prevention of vitamin A deficiency, and we have played a key role in expanding the knowledge of its etiology and distribution, its prevention and treatment. We have proved that vitamin A deficiency is the leading cause of child blindness, that up to 10 million young children, under the age of 6, suffer the symptoms each year, and that some 500,000 become irreversibly blind annually.

We have also shown how nutritional blindness can be prevented with a megadose of 200,000 international units of vitamin A delivered every 6 months at a cost of only 2 cents for each dose. We now have the electrifying evidence that the same dose of vitamin A prevents the death of millions of children as well. The cost is about $1 per child each year: an incredibly low cost.

The second study that produced the results that Dr. Sommer referred to, I would like to point out, was a major undertaking involving HKI, the Government of Indonesia, and the International Center for Epidemiologic and Preventive Ophthalmology, Dr. Sommer heads. I can not underscore enough the role and the commitment of the Indonesian Government. It has been an astounding event to witness over the last 10 years, and it very clearly points up what can be achieved over a period of time when governments work with private voluntary organizations and other technical institutions.

The Indonesians have put in an enormous number of resources. Even with regard to the Aceh study to which we have referred, that government actually funded somewhere around 60 percent of that work. Now, vitamin A and the control of vitamin A deficiency have become one of their five major health goals to achieve by the year 2000. This is what I think all of us involved with development really want to see, and this is a very clear indication of what can be achieved.

Vitamin A and vitamin A deficiency are problems in other countries as well, particularly Bangladesh, the Philippines, India, and right here in our own hemisphere in Haiti. We have been involved in Haiti for the last 10 to 12 years, in a vitamin A deficiency program. It desperately needs to be expanded and strengthened.

I am very proud to say that most recently Helen Keller International has led an extraordinary effort to distribute vitamin A supplements to the victims of the Ethiopian famine. An HKI team that visited the feeding camps in Ethiopia earlier this year recorded the highest rates of nutritional blindness ever recorded, and noted that up to 10 percent of the children had advanced symptoms: dry eyes and corneal scarring, and many were irreversibly blind. In fact, we have a story of one family with three out of the four children reaching the camp already blind.

We have been very fortunate in securing a major donation of megadose capsules of vitamin A from Hoffman-LaRoche. Two and a half million have been shipped. We are readying another 2.5 million, part of which will go on an Interaction shipment that will depart this weekend. And we now have teams in Ethiopia and on the Sudan border training the health workers in diagnosis and treatment.

The fact that vitamin A affects child mortality certainly invests this relief effort with even greater importance than we thought in the past. But what does all this add up to? I think this is the point that Dr. Sommer was trying to make. We really are on the precipice of expanding a very, very important program and one that is effective and low cost, and one that truly meets the child survival criteria that you in the Congress were thinking about when you established a Child Survival Fund last fall. We have the resources, we can measure the impact, and we are really, in a way—in more than one way—ready to move on a varied number of major fronts. And I submit to the members of the House Select Committee that we take this experience, this knowledge, and these resources and add them to the increased commitment of the U.S. Government in the form of a significant financial assistance through child survival.

I want to say also that I feel that the Congress, in having its pulse on the feelings of the people of this country in creating something called the Child Survival Fund has been extremely perceptive. People do care. People care about children. I think that as we have watched the television shows of Ethiopia and the Sudan, it has been the faces of the children that have agonized us all and left us all committed to act.

As we talk in terms of AID or the U.S. Government's role—the U.S. people's role, really—in international development and development assistance, the child survival concept is something that people understand. I have seen it in my talks with people that I have dealt with over the past 6 months throughout this country. Along those lines, I commend your perceptivity. It should be encouraged. It is an opportunity to bring more American people into the process and to respond to their concerns about the children of the world.

And finally, I want to convey, that we as a PVO feel that what has been achieved in child survival with regard to vitamin A is indicative of what a PVO can achieve. When we started this 15 years ago, very few institutions were involved. I certainly want to recognize the importance of the contributions of AID and other institutions; but I also feel that were it not for this PVO pushing this rock up a hill for the last 15 years, we wouldn't be where we are today.

Before I close, I also want to make one or two comments about the level of priority given to health and nutrition activities by the Agency for International Development. I don't think these are at all in line with the pulse of the country with regard to concerns for health and certainly with regard to using the child survival concept as a lever to bring more people into the process and to create a greater response that I know this country can deliver.

AID programs for health and nutrition should be expanded, and I think should be linked to a broader definition of child survival strategies. We have talked of, and you have brought up, Mr. Chairman, the difference between what AID received from Congress this year and what it is requesting for fiscal year 1986: $100 million below what Congress appropriated in 1985. From our point of view, this is not acceptable. I applaud the actions taken last year in establishing the extra budgetary contributions to help in creating the Child Survival Fund and, I urge that the same actions be taken this year with regard to the fiscal years 1986 and 1987 budget levels.

The Congress must take the lead in demanding that health and nutrition activities receive greater support. I can tell you that, on the basis of recent talks that I have head with AID mission directors, they do not have the resources for health programs; they do not have the people to plan health programs. This has created an unfortunate circle exacerbated by bureaucratic procedures and the lack of emphasis from Washington. I don't think it is entirely intentional, but the lack of emphasis on health and nutrition activities has led to the lack of expert personnel at the mission level which in turn leads to a decrease in health and nutrition projects, and, in turn, to a drop in requests from the field for nutrition and health money. The actual need, however, remains overwhelming, and without expanded U.S. assistance with increased participation from private voluntary organizations, clearly there is little or no hope for the survival of millions of the world's most vulnerable children.

Thank you, Mr. Chairman.

RESPONSES TO QUESTIONS FOR JOHN H. COSTELLO

QUESTIONS SUBMITTED BY HON. MICKEY LELAND

Question. You have stated that USAID mission directors state that they are extremely short of funds for health and nutrition programs. Yet Congress increased funding for health and nutrition programs in October 1984 by $60 million. AID's congressional presentation for fiscal year 1986 indicates that AID cannot use funding at these levels, and requests an overall reduction in health and child survivial programs of $128 million. Based on your communications with USAID mission directors, where has this failure of understanding occurred?

Answer. Health and nutrition activities as a program priority within AID have been on a long slide downward for many years. I attempted to point out in my presentation that the lack of emphasis given to health and nutrition at the AID Washington level has created an unfortunate circle in which USAID mission directors overseas, knowing of this lack of priority given to the health sector, design Country Development Strategies [CDS] which often contains little or no emphasis on meeting widespread health and nutrition needs. This, in time, has led to a decline in the numbers of health personnel attached to missions. As a results, many USAID missions overseas have little or no staff health expertise on hand to plan and develop projects and to participate in the CDS process. What USAID director overseas is going to invest his mission's limited time and personnel resources to develop programs in an area that has little likelihood of receiving funding? Were I a director reviewing AID's requests for fiscal year 1986, I would again have been proven correct in creating a CDS and budget request which emphasized other areas.

AID must be directed to increase its level of activities in the health and nutrition sectors. I sincerely hope that the Congress will again take the same action this year in allocating additional funds. You and your colleagues are quite correct in gauging the pulse of the American people. The Child Survival Fund and increased funding levels capture the imaginations and concern of all Americans.

With regard to discussions with mission directors and their staffs, I can again state that we are repeatedly told of the extreme scarcity of health funds. This is true in almost every USAID mission that I can think of, and it applies to ongoing projects as well as to initiation of new endeavors. In some missions, such as Bangladesh, it is shocking that USAID has made the decision to fund no health programs whatsoever and to allocate all resources to population control strategies. I might add that the imbalance between health and population activities is a common occurrence in many USAID country program. I am positive that AID can easily program additional health funds, particularly through PVO's.

In relation to the enormous needs of millions of mothers and children, the current health allocations as requested for fiscal year 1986 cause grave concern. The total amount requested is woefully inadequate. This becomes particularly so when one notes that $28 million has been allocated for Africa and some $38 million for Asia. These amounts simply cannot be rationalized in the light of current conditions and existing needs.

Question. You have stated that there is a lack of expert personnel at the mission level, which has led to a decrease in health and nutrition projects. Why do you believe there is a lack of expert personnel at the mission level?

Answer. The question relating to the lack of expert personnel strikes at the very heart of my previous comments about the priority of health and nutrition activities and the circle which has been created and linked together by the overall lack of priority given health and nutrition projects, the lack of expert personnel and the lack of project requests. Again, if health is perceived as a low priority, USAID mission directors are highly reluctant to fill limited personnel slots with health and nutrition advisors.

All in all, the bottom line answer to your first two questions relates to the level of priority given to health and nutrition activities. These simply have not been emphasized as major program priorities. The Congress must take the lead in dramatically upgrading these activities if we are to achieve some semblance of success in meeting basic human needs both in the near and long term.

Question. You indicated that Helen Keller International could make good use of an additional $3 million for vitamin A programs. I understand that other agencies active in vitamin A programs, such as the International Eye Foundation, also believe that they could greatly enhance their programs with additional funding. However, there is no allocation for vitamin A activities in the Office of Nutrition budget.

Given this new and exciting information about morbidity and mortality impacts of vitamin A programs, why do you believe that AID is not supporting continuation of funding for these programs?

Answer. I am very concerned that there is no allocation to fund vitamin A activities within the Office of Nutrition for fiscal year 1986. To be sure, AID is making substantial investments in increased funding for vitamin A activities. However, we are now, after some 15 long years, at the point of embarking on a major initiative which has the promise of saving the lives of millions of children at extremely low costs. Momentum is now a critical aspect of vitamin A strategies and significant reductions in infant mortality. We need a sustained 5- to 8-year program within AID funded at between $5 and $7 million annually in order to take what we have learned to its full potential.

Again, thank you for the opportunity to appear before you and your committee. I greatly appreciate your strong interest and support in these critical initiatives aimed at improving the lives and nutritional status of millions. If I can provide you with any additional information, please do not hesitate to let me know. In the meantime, I can assure you that you have my strong support and that of my colleagues throughout the PVO community.

[The prepared statement of Mr. Costello appears at the conclusion of the hearing, see p. 91.]

Chairman LELAND. Thank you very much, both of you, for very compelling testimony.

Dr. Sommer, the research you have described is very interesting. Do you believe that the same findings would apply in other countries than those you have studied?

Dr. SOMMER. I feel very confident that certainly countries like Indonesia, and I would lump into that probably the Philippines, probably Bangladesh, probably India, certainly we will find a similar response. Because the vitamin A is serving as a modifying influence in children who are assailed by all kinds of adverse environmental infectious agents.

How it will work in a place like the Sahel, the starving areas of Africa, hard to know. How it will work in other areas in Africa, hard to know, because the environment is so different and that is one of the reasons that under the Child Survival Funds we have been provided with resources to work with these countries, with other organizations, particularly Helen Keller International, to try and replicate some of these observations in a few select countries, so that we will know under what range of environmental conditions, in fact, vitamin A can have this dramatic impact that it undoubtedly will have in most of Asia.

Chairman LELAND. Now, you provide a certain dosage of vitamin A every 6 months to each child. How long does this have to take place?

Dr. SOMMER. Well, unfortunately, as children stay the way they are, if they had to rely on the capsule, they would have to have the massive dose every 6 months until about the age of 5 or 6. Obviously that is not the optimal situation. The capsule, as far as I am concerned, is merely a means of demonstrating that supplementing vitamin A status can have an impact. Once one has demonstrated that one wants to move very quickly into putting on line programs which are more appropriate for sustained activities at the local level, and as I pointed out, one of those, for example, would be fortification of a local foodstuff.

What we are doing in Indonesia now, Helen Keller International, Hopkins, and the Indonesian Government is doing this pilot fortification project of MSG. It is now halfway through. It looks very encouraging and, if it works, undoubtedly Indonesia will adopt a nationwide fortification program of MSG. We estimate that that will reduce vitamin A deficiency by about 80 to 85 percent in the population, because it is a very widely consumed item.

The cost of adding the vitamin A to the MSG is about 10 percent of the present cost of the MSG product itself. So over a 3-year period of time, given a background inflation rate of 10 to 20 percent, if the government subsidizes the first year two-thirds of the cost and then the second year one-third of the cost and the third year nothing, then over 3 years one has slowly slipped in the vitamin A without the consumer bearing a large burden or certainly one that is very obvious, then it becomes self-sustaining.

The other, of course, and most important activity, but it takes a long time to do and be effective, is to get people to eat good sources of vitamin A. And one of the things we found in our survey activities in a number of countries now is that, in fact, green leafy vegetables which are an excellent source of vitamin A are consumed by the vast majority of the families that have children that are vitamin A deficient. The only problem is, is that like in the United States, the children don't like spinach. So what we have to find is a nutrition, not only education but an effective means of educating mothers on how they can encourage consumption of vitamin A rich foods by the children. And that becomes automatically a no-cost item once you have changed that cultural activity.

Chairman **Leland**. Let us review your comments about Tanzania where you say that deaths from measles was cut in half when you gave vitamin A as treatment. As measles is one of the leading killers of children in the world, doesn't this indicate that vitamin A programs should be greatly expanded?

Dr. **Sommer**. It certainly does.

Chairman **Leland**. Let me now yield to my colleagues.

Mr. Bereuter.

Mr. **Bereuter**. Thank you, Mr. Chairman.

I very much appreciate the testimony. Thank you, gentlemen. I have no further questions.

Chairman **Leland**. Mr. Gilman.

Mr. **Gilman**. Thank you. I certainly found the testimony to be highly enlightening about some of the work that both of your agencies are doing. Have you received much help from the private sector with regard to providing the kind of vitamins that are needed for distribution? Have they helped to any great extent?

Mr. **Costello**. They have indeed. The major manufacturer of synthetic vitamin A is Hoffman-LaRoche. They have been extremely helpful—not only providing at various times the product itself, but also providing funds for parts of the research, particularly with regard to fortification. They have been extremely responsive with regard to the Ethiopian crisis. So it has been a very effective collaborative relationship over a number of years.

Also, I would like to point out that, with regard to the work in Indonesia, U.S. corporations outside the field of pharmaceuticals have been extremely helpful, with inputs that are very significant—companies like P.T. Richardson—Vicks, IBM, World Trade Americas/Far East, and Mobil Oil Corp.

Mr. GILMAN. I am pleased to hear that particularly about Hoffman-LaRoche. It happens to be one of my constituent companies.

We have been exploring what greater role the private sector, U.S. corporate interests overseas can do to expand opportunities for reducing the hunger problems, and are trying to find some good examples for a number of the corporations that are trying to find a way to help out in the hunger issue. Through the Fowler-McCracken Commission, that our chairman is aware of, we have been exploring through a number of the chief executive officers things that they might be able to do to pitch in. I would welcome any thoughts you might have for further possibilities for the private sector.

Mr. COSTELLO. Well, Mr. Gilman, I think that there are all sorts of possibilities, and I think that the relationship that we have developed with Hoffman-LaRoche is a very excellent example of a way the private sector, the private nonprofit sector, the public sector, and the corporate sector can be involved together. Everybody wins in a situation like this. The Indonesian people are going to win in terms of the fact there are going to be decreased rates of mortality, and nutritional blindness will not be a problem. The government wins. Certainly Hoffman-LaRoche, in terms of the sale of its product, will win.

The role that we have been able to play is that of an advocate. We have been able to provide access and credibility. These wouldn't have been there had not a private voluntary organization been involved. Also, we have been a very effective broker of funds, because we brought a lot of funds into this project in marshaling sources that might not otherwise be accessible to a corporation. These funds have come from the Ford Foundation and other development institutions as well.

Mr. GILMAN. I think you said something about the private sector helping with the distribution also out in the field. Is there some opportunities available?

Mr. COSTELLO. The private sector is very much involved in distribution. What we are tapping into in Indonesia is the private sector sale and distribution of the vitamin A fortified product, in this case, MSG. Thus, the distribution process, if the fortification trials are successful, and we hope that they will be, will be done essentially via the private sector, through their own distribution mechanisms of MSG, which is the ingredient that we have determined goes into every cooking pot.

The same results could be achieved in other countries. There have been some experiments with fortifying sugar with vitamin A in Guatemala, for example.

Mr. GILMAN. What was the total your organization expended last year for these child nutrition programs?

Mr. COSTELLO. Approximately $1 million.

Mr. Gilman. What portion of that was federally funded?

Mr. Costello. I would say about half.

Mr. Gilman. What portion would have been funded by the private sector?

Mr. Costello. I would say the other half, and even more if we count the contributions that don't go through our books. They would be extremely significant.

Mr. Gilman. How much did the public contributions amount to?

Mr. Costello. The public contributions amounted to about, I would say about $350,000, and that is contributions from individuals here in the United States who sent in a check for $2 or $1, or sometimes we would get 20 cents from schoolchildren.

Mr. Gilman. Thank you very much.

Would you care to comment on any of those questions?

Dr. Sommer. I think that is fine.

Mr. Gilman. Thank you. Thank you, Mr. Chairman.

Chairman Leland. Thank you.

Mr. Costello, you stated that there is a lack of expert personnel at the mission level which has led to a decrease in health and nutrition projects. Why do you believe there is a lack of expert personnel on the mission level?

Mr. Costello. Well, it is not that I believe it. It is the fact. We make a point of visiting many of the AID missions where we are working and in countries where we are undertaking some exploratory measures. For example, we recently initiated a project in Zambia. Zambia is only now getting a health officer. Unless there is such a health staff person present, when you are talking to an AID mission where so much of the country-developing strategies are formulated, there is a tendency within the missions to feel that they don't have the expertise, don't want to comment, and don't want to be involved in something that relates to health and nutrition.

Chairman Leland. After I led a delegation of Members of Congress to Ethiopia in November of last year, I was invited to speak at the University of Texas Medical School. I was challenging the students, as well as the interns and residents, to commit some of their time to relief efforts on the continent of Africa.

When I was in Ethiopia I talked to Monsignor Cole about health personnel. I don't know if you know him.

Mr. Costello. Yes, I do.

Chairman Leland. He is with Catholic Relief Services, and he has done a great job over there. And he said, well, what we need is not for volunteers to come over here and spend 10 days or a month, but if they can come and spend no less than 3 months, then they can make an invaluable contribution.

Tell me what we in Congress need to do.

Mr. Costello. Well, he is right. We are always faced with the dilemma of trying to respond to people's real desire to participate and help and at the same time do something that is really meaningful and productive at the other end.

There is a time factor. It takes time to become acclimated to local conditions, to know what is what, who is who, and how to work within whatever the system is. This is part of the problem with short-term volunteers. It almost argues, in a sense, in many respects that, short of a 3-month threshold, given the complexities of conditions that exist in a country like Ethiopia, it is very difficult to handle some of these shorter term volunteers.

We have had volunteers participate in our programs over the years, and encouraged them. But we have encouraged them on a longer term basis. We sometimes take shorter term volunteers. We just had a very prominent ophthalmologist in Sri Lanka where he lectured on a very specific subject for a 10-day period. But whatever the timeframe, it has to be structured by local organizations or by my organization working locally. It has to be highly organized so that the volunteer is properly utilized and doesn't have a bad experience. It is very complicated. But all of us do need volunteers, whether it is for 3 months or 3 to 5 years. In every one of the programs that we have, we have long-term people overseas. They are essential.

Dr. SOMMER. Can I say something? This actually raises a generic problem, which isn't specifically to the volunteers but has to do with expertise. If one looks around the world from a historical perspective, the great experts in tropical diseases and problems with nutrition and international health, in sort of the 1940's and 1950's, were people who, in fact, had been in the colonial service, a lot of them British, or one of the other colonial services. That group is now moving on, and one looks around and say: Who are the international experts today? Who can actually bring to an Ethiopia, or a Somalia, or a Sudan situation the expertise on how to do something? And there are precious few, because there are so few opportunities available for training and for career development, such that there is nothing there to attract people.

We work very hard trying to get medical students, and I think fairly successfully, interested in the area. But then you look around, and where do they get a training experience overseas and then where is their career structure? I was fortunate enough to spend time at the cholera research laboratory during my formative years. That was brought up earlier. That was an AID-supported activity, and when I worked for our Public Health Service. And there was sort of a core of people who worked at the cholera lab about the same time I did, plus or minus 4 or 5 years, which largely comprises our international expertise these days.

We need more opportunities like that. That is now an international resource, so there is not actually that much room for Americans to get exposure there, as well as a career structure for people to use this expertise to be able to react to situations like this.

Chairman LELAND. Do we just need doctors, or do we need other paramedical people?

Dr. SOMMER. No; we need a great deal more than doctors. We need doctors who are trained in public health. We need people who are management specialists. Probably we need them more than anything else.

The question was brought up earlier by Mr. Bereuter, I think, of how do we get those supplies through Customs. Well, another problem is once they are through Customs, how do you get them out to the places that need them? I mean, management planning, administration, nursing, training, health education—we need the works.

Chairman **LELAND**. Maybe a few pharmacists thrown in here and there.

Dr. **SOMMER**. Pharmacists, and farmers, too.

Chairman **LELAND**. I happen to be a pharmacist, which is why I mentioned that.

Dr. **SOMMER**. The question of drugs was brought up earlier, and that has been one of the major problems that WHO has tried to attack. I don't know if you are familiar with it or not; there is an official WHO-approved essential drug list to try and prevent countries from frittering away their funds on esoteric and exotic pharmaceuticals that they really don't need. And we could certainly go a long way toward helping them refine those and helping countries adapt to that reality.

Chairman **LELAND**. We worked very closely with Ethiopia on that issue, as a matter fact, and came back and talked to the Pharmaceutical Manufacturers Association, and I am very proud to say that they were very readily responsive to these matters.

I want to thank both of you. You have been invaluable to the committee in your contributions, and you will hear more from us.

Dr. **SOMMER**. Thank you, Mr. Chairman.

Mr. **COSTELLO**. Thank you.

Chairman **LELAND**. I am going to ask that the last two witnesses come up together.

Dr. David French, director of the Strengthening Health Delivery Project in Africa. Dr. French will discuss health activities in the African nations in which his program is operating and the opportunity for dramatically improving health and nutrition services.

And Ms. Phyllis Dobyns of Save the Children. She will be representing Interaction, the umbrella agency for 120 private voluntary organizations, many of which have nutrition and health programs in less-developed countries. She will be discussing the role of family food production in improving nutrition and reducing hunger around the world.

Thank you both for coming. Please don't note the absence of my other colleagues. This has been a very trying day for them. Many of our colleagues, knowing that there were no more votes had to go back to their districts. Some are in markup sessions. I know that the Agriculture Committee is marking up today, and we have several members on the Agriculture Committee. But all are very attentive to the matters that you will discuss, and are very much interested and will read your testimony from the record. I appreciate your participation.

Dr. French.

STATEMENT OF DAVID FRENCH, M.D., PROJECT DIRECTOR, BOSTON UNIVERSITY PROJECT FOR STRENGTHENING HEALTH DELIVERY SYSTEMS IN CENTRAL AND WEST AFRICA

Dr. **FRENCH**. Thank you, Mr. Chairman. It is both an honor and a privilege to have the opportunity to testify before the Select Committee on Hunger of the U.S. House of Representatives. It is my sincere hope that this testimony will make a positive contribution to the health and well-being of the peoples of Africa in particular.

Having lived and worked in Central and West Africa for the past 9 years, as a representative of the American academic community, I have had the unique experience of trying to deal firsthand with the problems of upgrading the health of the citizens of some 20 countries. We are all indebted to the U.S. Agency for International Development for its ability to work with the 20 participating countries and the African Regional Office of the World Health Organization in conceptualizing the unique project design that has proven, so far, to be quite successful. Equally important has been the collaboration of an American academic institution, Boston University. This unique grouping of actors has proven to have much to do with the project's success. As project director, I would like to take the opportunity to express my gratitude to one and all.

The staff and numerous consultants, African and American, who have worked toward the improvement of the delivery of primary health care services in Central and West Africa recognize the serious exacerbation of health problems caused by the prolonged drought and consequent malnutrition and starvation that have befallen Africa.

The United Nations Children's Fund [UNICEF] is to be commended for its efforts over the past 3 years, in particular, in the world-wide campaign to save the world's children. What little data that exists for many parts of the world, and this is especially true for Africa, exists due to UNICEF's unceasing efforts. I shall base much of my factual background, especially at the outset of this presentation, on the UNICEF report, The State of the World's Children 1985. For those of us here gathered, I should like to strongly recommend your reading of this report, which is so well done and which so dramatically points out the severity of the problems facing the world's children.

UNICEF strongly urges a very simple but effective approach to breaking the vicious cycle of malnutrition and infectious disease that leads to the death and disability of so many of Africa's children. It is a primary health care approach that makes maximal use of easily attainable human and treatment resources. In much of Africa today fully 50 percent of the annual national mortality of many countries is attributable to the deaths of children under the age of 5. To reach the age of 5 years is an achievement of some moment in these countries. The desire of parents to have assured survival of infants has much to do with the success or failure of family planning programs. Child survival, therefore, is the first step in family survival and the orderly planning of family size.

Few would argue with the UNICEF approach of promoting breast feeding, oral rehydration, growth monitoring and maintenance, and immunization. These four modalities are attainable in any African community and in a cost-effective manner. The experience of the Project for Strengthening Health Delivery Systems in Central and West Africa [SHDS] carried out by Boston University in collaboration with the African Regional Office [AFRO] of the World Health Organization and with resources supplied, as well, by the U.S. Agency for International Development, over the past 8 years, has been that any of 20 countries served could and would absorb and utilize resources and training to better serve their communities through primary health care.

We have every reason to believe, based on the SHDS experience to date, that a rational and attainable four-point program of primary health care such as that advocated by UNICEF and noted above can be mediated through academic and other private organizations which have necessary field resources and experience in Africa. The collaboration of Boston University and AFO over the past few years stand in evidence of this fact.

The UNICEF world statistics on children, statistical pocketbook for 1984 was reviewed for the 20 countries participating in our project. Seventeen of the twenty countries served by SHDS were listed, and the following is a brief verbal summary of some of the findings.

In these 17 countries the infant mortality rate ranged from 98 to 204 per 1,000 live births. The percent of low birth weight children was 10 to 23 percent; but it is important to recognize that there was not even any record in seven countries. The death rate in children 1 to 4 years of age was 19 to 50 per 1,000 children. A child wasting study done of children from 12 to 23 months of age showed that 5 to 39 percent of the children were wasting; they did not have sufficient maintenance of their physical being. Incidentally, again there was no record in nine countries. Full immunization against measures and tuberculosis ranged between 6 and 100 percent for measles and 2 to 92 percent for tuberculosis; no record in six countries. Full immunization against diptheria, polio, and tetanus, 2 to 39 percent or 2 to 45 percent; no record in eight countries. Immunization of pregnant women against tetanus, 1 to 60 percent; no record in 11 countries. I mention the fact of the no record because later on I shall emphasize the need for improving the collection of very basic data relative to the health of these populations in order to make proper decisions about the distribution of scarce resources and in the planning of what kinds of health programs should be carried out.

The underlying importance of such selected indicators has to do with the very future of any nation since a nation's children are its future leaders. One can compare these indicators from nation to nation and the disparity between those in the developed and the developing world stands out quite glaringly. In order to illustrate this, I have listed below the same selected indicators which I read before for the 17 countries for 5 other countries. None of these countries are in Africa, and one of these happens to be the world's most populated country and is located in Asia.

The five countries selected were the Soviet Union, the United States, United Kingdom, Sweden, and China. Infant mortality was as low as 7 per 1,000 live births in Sweden; 25 in the U.S.S.R.; China, only 41. The death rate, 1 to 4 years, of children was only 2 in the Soviet Union, 2 in China, 0 per 1,000 in 1 to 4 years in the other countries. The immunization rates ranged between 50 and 96 percent for the various diseases listed before.

This is hardly a critical epidemiological or demographic study, but it shows us quite dramatically the magnitude of the problem in Africa. Nor can one say it is explained solely by the size of the GNP or other economic indicators although availability of economic resources clearly plays a role. The GNP of China is listed as $300 a year; the U.S.S.R.'s as $4,550; the United Kingdom, $9,110; Sweden, $14,870.

One would suspect from the preceding that there are interventions that are affordable and efficacious that can be carried out even in the absence of large amounts of money.

In 17 of the 20 countries participating in the project, which have participated over the last few years, as noted above, available statistics reveal the following: Population age 0 to 15 years is 41 to 50 percent of the total population. So focusing on the children of a country, in effect, focuses on literally one-half of the population. The case would seem, therefore, to have been made to justify serious extended interventions on behalf of the children in Africa. And if one considers the added burden placed upon these populations by drought and starvation, there could be little question that if one makes the decision to do anything at all, one would have to seriously consider committing oneself, or nation, to a plan of action of sufficient magnitude to have an impact.

These latter comments are made advisedly, since it is very difficult to interpret the signals which come from U.S. foreign assistance in the United States. On the one hand, we are gratified by the willingness of the U.S. Government to make available food and to commit itself, at least at the top level of management, to a Child Survival Action Program. But on the other hand, decisions to cut back and even consider elimination of health program development at the bilateral level, even if resources are made available by the Congress is quite disturbing.

It is rumored that such an approach is justified based on the lack of absorptive capacity of governments and programs involved. Does this mean that we are, in fact, committing certain populations to widespread deprivation and death, at least part of which the United States could prevent, because they have not met some prequalification for help? Is it not incumbent upon us to include in our help the development of the necessary capability to better manage the material resources that we might provide? Was it that other parts of the world where we have intervened over a longer period of time and where there are now successfully operating programs and their management modalities, many of which have a significant amount of self-sufficiency now, was it that they had had already existing capability to manage and administer our aid already in place in advance?

I think not. In fact, I am mindful of one excellent example out of several. The Southeast Asian Ministers of Education Organization [SEAMO] and its regional tropical medicine and public health project [TROPMED] wherein the United States and other interventions made possible institutional development and creation of manpower necessary to support much needed programs.

Similar examples exist in the Americas. These institutions have played a significant role in the production of manpower and knowhow in the regions where the need existed. Not only has this increased the absorptive capacity of the regions, but at the same time their productive capacity and self-reliance have been developed as well. Improved health indicators go hand in hand with this kind of development assistance in other parts of the world. I suspect the same would occur in Africa. The outcome for these populations concerned has been one of redemption rather than condemnation to continued death and privation. Blaming the victim is an easy way out, but the victim is not helped in the least by it.

The question, frankly, is will Africa's share of a worldwide program budget available under the CSAP, the Child Survival Action Program of AID—this is a worldwide budget that is being spoken of. Will this be sufficient, specifically in relation to Africa, to meet a significant portion of the vast need? I should begin this portion by commending the AID Administrator for his foresightedness as expressed in his worldwide cable that went out to all AID missions this past February. This cable does, indeed, approach the problem correctly and is in line with the UNICEF approach outlined earlier in this document. Let me ask several questions, however, with the special programs of Africa in mind.

How many of the five new oral rehydration therapy programs, which he approves, how many of these will come to Africa? These are worldwide, five. Is the expansion and acceleration of six already existing immunization programs worldwide going to make a difference in Africa where such programs are especially needed in areas of drought and starvation? How many of these existing six immunization programs, which are going to be improved, now, these are not new, in fact, are in Africa? Are any of them in Africa? It doesn't say. The expansion of nutrition education programs to improve the feeding of infants and the monitoring of infant growth and development. This is proposed in 10 programs. They are excellent activities, but again how much of this is planned for Africa? In fact, which are the African countries that will be included in that limited number of countries selected worldwide? Is it one, or two, perhaps three that will be selected?

My next concern is, as was pointed out in the announcement of this program by the Administrator, that it would be a bilateral program focus. As was pointed out earlier, absorptive inadequacy relative to program development in a country or region is overcome by developing training activities to create adequate personnel to staff program activities. Our experience in west and central Africa to date has been that support and development of existing regional training facilities is much more cost effective and rational than to attempt the same thing on a country-to-country or bilateral basis, to do it on a regional rather than a country-to-country basis.

Furthermore, certain other supply and support activities of primary health care might well be carried out more cost effectively on a regional basis and in collaboration with other international assistance organizations, including WHO.

I would hope that the Administrator's focus on bilateral programs would not rule out those other things that are done on a regional basis as mentioned above. Perhaps the greatest encumbrance to the CSAP establishment in Africa that would result from too heavy dependence on bilateral program development resources is the fact that technical support in the health field has all but been eliminated from the bilateral missions. I think maybe there are 6 left out of the 20 countries that we work with in the field of health.

Professional public health personnel have either been eliminated or left with little or no support resources in the various missions.

And indeed, in the two regional Economical Development Service Offices [REDSO] in Africa, if additional budgetary resources are made available by Congress or the administration, it is not necessarily assured they can even be properly used or utilized at all for that matter if there is not sufficient organizational support available from AID itself at the bilateral mission level.

Recently, AID has made a large amount of program activity available, again on a worldwide basis, through the Science and Technology In Health unit. This is the same one that Dr. Brady is in charge of. But it cannot be participated in—these are available programs, but they can't be participated in unless requested through the bilateral missions. Such requests require technical know-how such as is virtually nonexistent now in USAID missions in Africa. If I am not mistaken, $40 million of the $85 million made available by Congress in the fiscal year 1985 continuing resolution has been proposed already to several organizations through Science and Technology In Health for worldwide use. Under such circumstances it is difficult for me to see how Africa will be able to participate in the very program activity the need for which was behind the unusual bequest made recently by Congress.

In the face of the unusual need and the difficult circumstances of participation, it would seem appropriate to consider a special mechanism for development support for Africa, at least in the field of health. A program for primary health care and development and support in Africa in collaboration with WHO AFRO on a regional basis available to various national or regional programs or their development would seem desirable. Such a regional PHC support program would not preclude bilateral program development. On the contrary, it could be used to give necessary technical support to bilateral missions and REDSO's alike in their development of much needed primary health care support programs in this time of great need in Africa.

Mr. Chairman, I have received a note here about the need for you to catch an airplane, and I am, therefore, a little hesitant to extend this at this point.

Chairman LELAND. Well, let me say to you that your full statement will be submitted for the record. If you can just summarize what you have there, I would appreciate it.

Dr. FRENCH. Fine. Thank you.

I have made some comments about some of the achievements of our project, our project over the last 9 years in central and west Africa, and have tried to indicate in the document how these now can be adapted. You have a program activity in place, staff in place, you have relationships with 20 different countries already set up, with the World Health Organization Regional Office for Africa, USAID itself, and it would seem appropriate to try to make use of those existing resources in an area which has such unusual need as I have tried to point out previously in this document.

And in line with the request of your letter when I was invited to testify today, I have indeed proposed an approach which has been titled "The Boston University Institute for Primary Health Care Development and Support in Africa," in order to support the necessary technical services needed which no longer exist. I am fully aware of Dr. Brady's problem. They have had to reduce their staff worldwide, so the possibility of their increasing staff is rather difficult to foresee. However, there is no reason why they cannot make arrangements otherwise, and I am proposing a means of making arrangements built on already existing activities, through an academic institution in this instance. You have had an earlier academic presentation as well, and, of course, the same thing would apply through the PVO's that might be available.

But in the special circumstance that exist in Africa where there are at least 100 million people now involved in, as you well know, in the serious problems of the drought and consequent starvation, and in view of the fact there are so few resources now available for responding to this in the area of health, I have proposed this as one approach and have presented this in a document.

So I guess I better stop at this point, Mr. Chairman. Thank you.

Chairman LELAND. I apologize. Your testimony is very interesting and informative, and I am sorry to cut you off. But it will be included in full in the report.

[The prepared statement of Dr. French appears at the conclusion of the hearing, see p. 95.]

Chairman LELAND. Now, we will have our next witness, Ms. Phyllis Dobyns from Save the Children.

STATEMENT OF PHYLLIS DOBYNS, VICE PRESIDENT, PROGRAM AND PLANNING, SAVE THE CHILDREN

Ms. DOBYNS. Thank you, Mr. Chairman. I won't even do my summary of the statement, but I would like to point out that the testimony that you have heard today has really I think very clearly linked the need of nutritional status and nutrient intake with food; and being the Select Committee on Hunger, I would like and my paper proposes that we really try to build on some of the accomplishments of the Green Revolution.

The Green Revolution clearly brought increased food available to the world at large. However, the one group that it didn't benefit to any significant degree were the poor farmers. And I would like to see us try to build a funding commitment to the poor subsistence farmers, and that funding commitment would have two phases to it, or two stages to it. One which would be research into those areas and needs of the subsistence farmer, meaning the crops that are the crops that he knows. The sorghums and the millets rather than the corn and the wheat of the Green Revolution. And similarly, along with that the kind of assistance to the informal food sector that already exists in which most of the poor people in the world, in fact, subsist. In that connection, I would like to see us, rather than building large universities or technical agricultural research centers, instead build local demonstration centers close to a market town with a cluster of farming villages around it, so that the farmer has the ability to not only go through informal training on a regular basis, but when he has problems at home with his chickens or his fish or his crops, he can walk back to the demonstration center and feel it is part of his own environment where he can get the assistance he needs to really improve his own capability to build a food security system at home.

So, my paper and testimony really is an effort to get you and your committee, which I feel is the proper committee in the Government, to look at committing funds for the informal food sector, and it is spelled out better in the paper.

I thank you very much.

Chairman **Leland**. Thank you very much.

[The prepared statement of Ms. Dobyns appears at the conclusion of the hearing, see p. 104.]

Chairman **Leland**. Our committee asked for a study from the Office of Technology Assessment, and it referred just to what you are talking about: increasing the wealth of the subsistence farmer; giving him an opportunity to afford more to not only eat, but to produce for others. This gives an opportunity for more people to obtain the proper food for survival.

I will assure you that our committee will look at your suggestions very closely, and do what we can to further the interests that you have expressed. I want to thank both of you for participating.

I have some questions for you, Dr. French, but I would like to submit them in writing to you and ask that you send us your responses. Thank you.

You are most knowledgeable about Africa. I will assure you that this chairman has been very much committed to doing what we can in Africa, making it the highest priority in view of the current tragedy occurring today in Africa. I am very much involved. I happen to also be chairman of the Congressional Black Caucus, and we, as a priority of ours, are looking at what we can do to further assist in Africa, to try to help resolve the problems, not only in the short term, but also in the long term.

Thank you very much.

Dr. **French**. Thank you.

[Whereupon, at 1 p.m., the committee was adjourned, to reconvene subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

Prepared Statement of N.C. Brady, Senior Assistant Administrator for Science and Technology, U.S. Agency for International Development

Mr. Chairman, thank you for the opportunity to testify about the Agency's health and nutrition programs.

These are programs of which we can all be proud; they include some of the Agency's finest achievements in humanitarian and development assistance.

These programs are showing results—particularly in the area of child survival—and promise, through research that we expect will yield new health breakthroughs in the not-too-distant future.

Last week, the House passed a resolution 420 to 1 commending President Jose Nepoleon Duarte for the immunization program in El Salvador. In a single day, April 21, an estimated 300,000 Salvadoran children were immunized against common childhood diseases.

A.I.D. was pleased to have its contribution to that program recognized. We believe that the efforts of our agency—working together with the Government of El Salvador, UNICEF, PAHO, Rotary International, Project HOPE, the Catholic Church, and other organizations-will make a dramatic difference in the health of the children in that country.

The immunization program in El Salvador is just one example of the health programs that A.I.D. in supporting. This fiscal year, with the additional health, nutrition and Child Survival funds provided by Congress, the Agency has been able to greatly accelerate its assistance efforts in health and nutrition and to launch a Child Survival Action Program. This is an exciting program, one that delivers simple, easily administered technologies that have been shown to reduce death and disability among young infants and young children in developing countries. In order to have a direct and lasting impact on the health of children in the developing world, A.I.D.'s Child Survival Action Program is sharply focused—

On countries where the need and the likelihood of impact are the greatest;

On targeted interventions with a track record of success, such as:

Oral Rehydration Therapy to replace fluid lost during diarrheal episodes;

Immunization against the six most common diseases of children; and

Key nutrition interventions: growth monitoring, nutrition education to promote correct infant feeding and breastfeeding, and Vitamin A therapy.

The program is assisting governments to extend the availability of these key health technologies. It is also providing funds to international organizations, UNICEF and UNDP. And, at least one-third of the additional $85 million will support activities by U.S. and host country private voluntary organiations (including a $7.5 million grant to UNICEF to support such endeavors). These organizations play a vital role in providing health care to people in developing countries and can often reach families in areas where public sector services are not established.

The Agency's program also provides essential technical assistance and backstopping to make sure that Child Survival projects are well designed and managed.

Now that most of the projects included in the Child Survival Action Program have been developed and in some cases, even begun, I'd like to describe briefly a few of the highlights.

In Haiti, A.I.D. is supporting the expansion of a successful urban health program to rural areas. The association of local private voluntary organizations we are supporting has already had remarkable results in urban areas—increasing immunization coverage from 1 percent to 40 percent among the target group in just one year. We are anticipating similar results in rural Haiti as well.

In Ecuador, A.I.D. is supporting a national immunization and ORT campaign which will enlist the media of that country. At the end of April, the First Lady of Ecuador—who is also the head of the National Institute for protection of the Child and Family—spent a full day with A.I.D.'s technical staff, personally participating in planning the campaign.

We are following up recent work by Johns Hopkins University and Helen Keller International in Indonesia that showed Vitamin A distributed to prevent nutritional blindness also resulted in a significant reduction in sickness and death among children from respiratory disease and diarrhea. Because of these extraordinary findings, A.I.D. is expanding Vitamin A deficiency interventions in six countries including Bangladesh, Indonesia, and Malawi.

In Nigeria, A.I.D. is funding UNICEF's new program with local private voluntary organizations to expand the availability of ORT and immunization.

These are just a few examples of the activities that we are starting. We are confident that the program will be one of which A.I.D. and the people of the United States can be proud.

The Agency is also proud of its support for research which has contributed to the technological breakthroughs on which the child survival initiative depends. The service delivery projects which I have just described are clearly reaping the benefits of past research investments, including A.I.D.'s support for the research that produced such breakthroughs as Oral Rehydration Therapy.

Today, we are looking ahead—and investing in promising research that is likely to revolutionize health care in the years ahead.

A.I.D. is firmly committed to maintaining U.S. leadership in heatlh-related R&D.

The Agency's ongoing health budget includes support for a carefully-targeted research program. This program supports the identification, improvement, and adaptation of technologies designed to enhance child survival as well as the development of new technologies.

Specifically, we are focusing on the rapid development of a number of vaccines which will have significant payoff within a relatively short time (in some cases three years). These new vaccines are directed at the major killers of infants and young children (e.g., measles, malaria) and some of the most intractable diseases of the Third World (e.g., leprosy).

A major problem facing immunization programs is that many vaccines currently in use require careful temperature control, repeated doses over time, or other special handling or administration that overwhelm delivery systems in LDC's.

A.I.D. has launched a 5-year project to improve and simplify the handling and administration of vaccines against major killer diseases. This project will help develop:

A vaccine for measles that can be given to children as young as six months of age;

A vaccine for whooping cough that has fewer negative side effects than the one currently in use; and

A vaccine for rotavirus, the most prevalent cause of infant diarrhea.

Approximately 400 million cases of malaria occur annually, and at least one million African children under age 14 die from malaria each year. Surgeon General Dr. C. Everett Koop at the recent World Health Organization Assembly observed that, "Malaria probably affects as many people as any other disease in the world. A vaccine would change the whole socio-economic future of the Third World."

A.I.D.'s support for developing a malaria vaccine is paying off. We now have two prototype mosquito stage vaccines ready for field testing—one for the most deadly form of malaria (P. falciparum), the other for the most common form (P. vivax).

If we can maintain this pace and the field trials go well, we could have a vaccine which protects against two major forms of malaria by 1988-89, several years earlier than we have been estimating.

A.I.D. has long supported research on cholera, the most severe of diarrheal diseases, a disease which occurs in epidemics and kills otherwise healthy people in a matter of hours. At the ICDDR/B, formerly the Cholera Reserach Lab, earlier A.I.D.-funded research resulted in the development of oral rehydration therapy [ORT]. Today scientists at ICDDR/B are working with A.I.D. support to improve the formulation of ORT.

A.I.D. is also helping to develop a truly effective vaccine that could erase cholera. Basic research on an oral cholera vaccine has been completed and A.I.D. is supporting a 2-year field trial to test its efficacy. Within 6 years, we look forward to having an easy-to-administer oral vaccine which could protect against the estimated 20 million cases of cholera a year.

There is one other vaccine that I want to mention, and that is for leprosy. A.I.D. is working with the Special Program on Tropical Disease Research to support field trials in Malawi and Venezuela for a new leprosy vaccine. The vaccine may be effective not only in preventing this dreaded disease but also in treating it and reducing its severity.

In conclusion, let me remind the Committee that forty thousand children die each day worldwide. As many as one half of these deaths are the result of health problems that can be cured or prevented by relatively simple means which are now available. We have a tremendous challenge to help countries in the developing world adapt and use the technologies which already exist to prevent this human wastage.

A.I.D.'s program of health research—together with our programs to deliver known technologies—hold the promise of a healthy future for children throughout the world.

PREPARED STATEMENT OF CARLYLE GUERRA DE MACEDO, M.D., DIRECTOR, PAN AMERICAN HEALTH ORGANIZATION

It is a privilege to be asked to testify this morning before the Select Committee on Hunger of the U.S. House of Representatives.

I am the Director of the Pan American Health Organization [PAHO] and the Regional Director of the Region of the Americas of the World Health Organizaton. PAHO was established in 1902 to promote and coordinate the efforts of Western Hemisphere countries to combat disease, lengthen life, and promote the physical and mental health of their people. The Organization emphasizes technical excellence and the effective application of existing knowledge to solve health problems.

As the Regional Office of the World Health Organization in this hemisphere, PAHO has a permanent task of working with its member countries in pursuit of Health For All by the Year 2000. That responsibility is even greater when it touches our children.

Throughout the world, some 5 million children under five years of age die each year from diseases which we can prevent with medicines and relatively common technology available to us today. In the countries of the Americas, 800,000 children die each year from preventable diseases, as many children as the number of people who live in this city. It is as if an entire city the size of Washington, its inhabitants only children, were to be destroyed every year.

The tragedy is that those lives are lost not because we do not know how to prevent or control those diseases, but because we have failed to assure all children access to the benefits of the knowledge we possess.

Perhaps the most effective and efficient of all the health technologies known to man is immunization. Scientists have developed effective vaccines which protect against most of the childhood infectious diseases. Yet, 80 per cent of the world's children do not receive that protection. Even here in the Americas, 4 million children born every year do not yet have access to vaccination against those childhood killer diseases.

Around the world, every six seconds, one child dies and another is disabled because of the failure to immunize against those diseases. PAHO and WHO have undertaken a global commitment to meet that challenge.

The Expanded Program on Immunization [EPI] was initiated by a 1974 World Health Assembly resolution. The EPI was endorsed for the Americas by the Pan American Health Organization [PAHO] Directing Council in 1977. Since its inception in 1977, the EPI program in the Americas has made considerable progress. More than 15,000 health workers have been trained in EPI workshops. A cold chain regional focal point in Cali, Colombia has trained over 150 technicians in cold chain equipment, maintenance and repair. Most countries have made notable strides in improving and expanding the equipment and procedures used in the cold chain to assure the potency of vaccines. Schools of Public Health in the Region have been actively involved in EPI training.

PAHO created the EPI Revolving Fund in 1977 which has assisted countries in the Region with vaccine purchases worth more than US$19 million. This Fund has contributed to improved vaccine quality and assured the availability of vaccines at the country level.

Since November 1980, PAHO has collaborated with 18 countries in the Region in conducting comprehensive EPI program evaluations. Six countries have carried out follow-up evaluations.

The Organization has worked with countries to provide technical updates and recent program data through the PAHO EPI Newsletter, which is published bimonthly in English and Spanish and distributed to more than 10,000 health workers in the Americas.

PAHO has collaborated with other organizations which support immunization activities including UNICEF, USAID, Rotary International and the Bellagio Task Force for Child Survival.

The improvements in the control of paralytic poliomyelitis in the Americas since the start of the EPI initiative have been remarkable. In the Americas, the proportion of children less than one year of age who have received the recommended three doses of polio vaccine has increased from 34.6 percent in 1978 to more than 75 percent in 1984. The number of reported cases of paralytic polio has decreased by 90 percent from the 4,728 reported cases in 1979 to 489 in 1984. A major contribution to the increased polio vaccine coverage and decreased paralytic polio morbidity have been special immunization programs emphasizing oral polio vaccination in Bolivia, Brazil, Colombia, Mexico, Dominican Republic, and Nicaragua.

An additional effort in priority countries specifically directed at polio can lead to the interruption of indigenous poliovirus transmission in the Western Hemisphere in the next 5 years. The eradication of indigenous transmission of wild poliovirus in the Americas deserves immediate Hemispheric action.

It is unacceptable, given the technology presently available, that any child in this Hemisphere should suffer paralytic poliomyelitis. I announced, two days ago, a PAHO *plan of action* to eradicate polio in this hemisphere by 1990. It has the following objectives:

(a) Promote overall development of the EPI program in the Americas.

(b) Eradicate indigenous transmission of wild poliovirus in the Americas by the year 1990.

(c) Improve disease surveillance in the Region and at country level to assure that all suspected cases of polio are immediately investigated and control measures instituted that will stop transmission within one month of the first identification of an outbreak.

Intensified surveillance is critical for the success of this initiative and the EPI in general. All suspect cases of poliomyelitis must be considered public health emergencies and thoroughly investigated immediately. The chain of transmission must be identified and field investigations (with laboratory support) carried out to determine the extent of the outbreak focus. The laboratory support for virus isolation and serologic testing in the Region must be strengthened.

We must put an end, once and for all, to the spectre of crippling disease which still looms before the children of the Americas. Without the eradication of the polio virus, the chances of a sudden outbreak of polio still exists. Eliminating the virus from this hemisphere is the only sure way to protect our children from the threat of that disease.

The most critical elements for the success of this initiative are political commitment of the national governments and support of international agencies. PAHO will coordinate the efforts to secure additional financial and technical assistance. It is estimated that US$100 million will be needed over the next 5 years to cover additional personnel, laboratory support, improved surveillance and outbreak control, vaccine quality assurance, and cold chain development.

I am convinced that this commitment by the nations of the Americas to eradicate polio will not fail because of the lack of financial resources. The long-term economic return will far outweigh the actual costs of the effort, although my personal conviction is that it is time to stop using economic indicators alone to measure the well being of children.

We are proposing that the member countries of PAHO be supported by all of us in a massive final five-year effort to achieve the eradication of polio from the Americas. The time has come for us to say that it is unacceptable for any child in the Americas to suffer from polio.

I hope that the Congress of the United States will support us in these efforts to improve the health of the children of the Americas.

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REFERENCIA

THE EXPANDED PROGRAM ON IMMUNIZATION (EPI), POLIOMYELITIS IN THE AMERICAS AND ITS ERADICATION BY 1990

BACKGROUND INFORMATION

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1. BACKGROUND

Any activities related to the eradication or elimination of diseases preventable by immunization must be considered within the context of the Expanded Program on Immunization (EPI), which seeks to control six priority diseases, one of which is poliomyelitis.

The long-term objectives of the EPI are to:

- reduce morbidity and mortality from diphtheria, whooping cough, tetanus, measles, tuberculosis and poliomyelitis by providing immunization services against these diseases for every child in the world by 1990 (other selected diseases may be included when and where applicable);

- promote countries' self-reliance in the delivery of immunization services within the context of comprehensive health services; and

- promote regional self-reliance in matters of vaccine production and quality control.

The EPI requires a long-term commitment to continued immunization activities and is an essential element within PAHO/WHO's strategy to achieve health for all by the year 2000.

2. PROGRESS TO DATE

2.1 Levels of coverage and impact

A review of country reports shows that immunization coverage in the Americas has improved considerably since the EPI was launched in 1977. In 1978, for example, a very small proportion of the children under 1 year of age (less than 10%) lived in countries where complete immunization coverage with EPI vaccines was at least 50% for this age group. By 1984, this proportion had risen considerably to nearly 50% for DPT, over 50% to measles and BCG vaccines and over 80% for polio vaccine (Table 1). An illustration of EPI impact is shown in (Figure 1), which plots the incidence rates of polio, tetanus, diphtheria, whooping cough, and measles from 1970 to 1984 in Latin America and the Caribbean.

Latin America

Less than half the countries of Latin America reported coverage levels of 50% or more with DPT, polio, and measles vaccines in 1983, with a much smaller fraction reporting coverages of 70% or more. BCG coverage was generally higher, with 10 countries reporting coverages of greater than 50%, six of which were greater than 70%. Figure 2 shows the progress made in increasing immunization coverages from 1978 to 1983, in terms of proportion of children less than 1 year old residing in areas reporting coverages of 50% and 70%.

Caribbean

Immunization coverage has generally improved from 1980 to 1984, especially in the 12 smaller countries of the subregion with populations of less than 130,000 (in order of ascending population size: Anguilla, Turks and Caicos Islands, British Virgin Islands, Montserrat, Cayman Islands, St. Kitts/Nevis, Bermuda, Antigua and Barbuda, Dominica, Grenada, St. Vincent and the Grenadines, and Saint Lucia). Six of the larger countries (Belize, Bahamas, Barbados, Guyana, Trinidad and Tobago, and Jamaica) have also improved their coverages, but none as yet has reached levels greater than 80% with any vaccine.

If all countries meet their 1985 targets, immunization coverages for DPT and polio will range from 60 to 100%, with most countries attaining coverages of over 80%. For measles, 1985 targets range from 50 to 95% coverage, and for BCG, from 70 to 99%.

2.2 Status of EPI Related Activities

Training

In the period since EPI training activities were launched in early 1979 through the end of 1984, it is estimated that at least 15,000 health workers have attended EPI workshops.

As of September 1984, over 150 technicians in the Region have been trained in cold chain equipment maintenance and repair.

Vaccine Production and Quality Control

Overall, 11 countries in the Americas are able to produce bacterial vaccines such as DPT, DT, and BCG. The production capacity for these countries is about 60 million doses, but the majority are not producing up to capacity.

At present, only two countries in Latin America, Brazil and Mexico, are producing viral vaccines. Both are producing measles vaccine. Cuba is in the process of developing production capability of measles vaccine with support from PAHO and UNDP. Only Mexico has developed the production capability for oral polio vaccine. As with bacterial vaccines, the production capacities of the viral vaccines exceed the actual production outputs.

Table 1: Vaccination coverage in children under one year of age, by type of vaccine. 1984 (provisional)

Sub-region and Country	Population under 1 year of age	Coverage %			
		DPT 3rd Dose	Polio 3rd Dose	Measles	BCG
North America					
Bermuda	800	40	41	42	...
Canada	403000	...	...	...	...
United States	3700000	...	...	...	...
Caribbean					
Anguila	200	69	73	72	75
Antigua & Barbuda	2100	94	92	73	...
Bahamas[c]	6200	62	62	62	...
Barbados	4600	83	77	84	...
Br. Virgin Is.	300	85	85	89	...
Cayman Is.[c]	600	90	90	75	64
Cuba[a,b]	168000	88	99	80	91
Dominica	2500	84	82	85	84
Dominican Rep.	197000	20	99	19	43
Grenada	4000	76	75	31	...
Haiti	200000	12	12	13	58
Jamaica	59000	57	56	60	48
Montserrat	300	84	82	...	81
St Christopher/Nevis	1800	97	97	85	...
Saint Lucia	4300	83	84	60	80
St Vincent/Grenada	3500	86	90	92	32
Trinidad & Tobago	23000	65	66	10	...
Turks & Caicos Is.	170	60	70	44	99
Continental Middle America					
Belize	5700	54	54	44	82
Costa Rica[c]	68000	82	81	83	...
El Salvador[a]	200000	44	44	41	21
Guatemala[a]	294000	54	53	27	37
Honduras	169000	48	84	51	47
Mexico	2622000	26	91	30	24
Nicaragua	133000	32	73	30	24
Panama[b]	60000	70	70	72	79
Tropical South America					
Bolivia[b]	243000	24	56	17	24
Brazil[a]	3845000	67	99	80	79
Colombia	798000	60	60	52	67
Ecuador	347000	36	36	40	79
Guyana[c]	25000	43	41	33	49
Paraguay	122000	58	59	53	70
Peru	672000	26	26	32	59
Suriname[b,c]	14000	68	66	4	...
Venezuela[b]	557000	27	59	25	23
Temperate South America					
Argentina[b]	602000	66	64	90	72
Chile	285000	84	86	77	87
Uruguay	57000	57	83	17	...
TOTAL d		49	78	53	57

a) 2nd dose only.

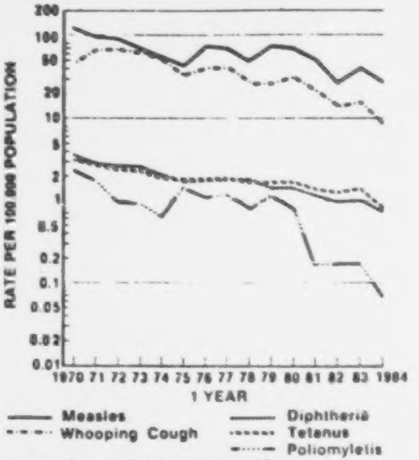
b) Projected coverage.

c) Measles coverage for one year olds.

d) Includes only countries with available data.

... Information not available.

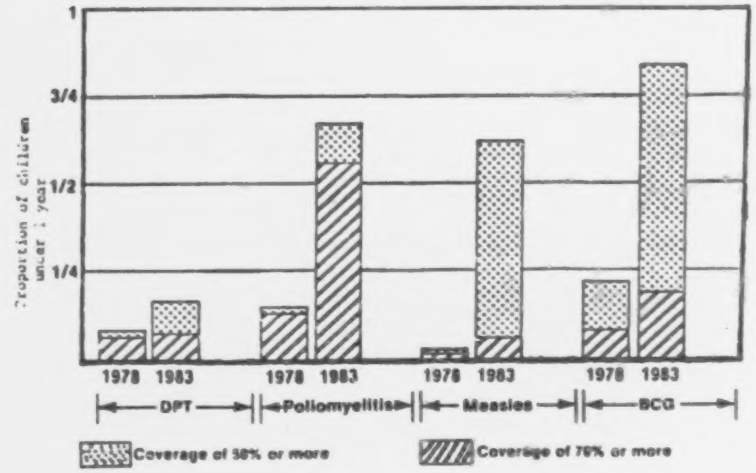
FIGURE 1
INCIDENCE OF FIVE VACCINE-PREVENTABLE DISEASES, REGION OF THE AMERICAS, *1970-1984



*Including Bermuda, Canada and the United States

Provisional Data for Measles, Whooping Cough, Diphteria and Tetanus, for the year 1984.

Figure 2: Proportion of Latin American children under one year of age in countries where immunization coverage is at least 50 or 75 [illegible] (reported coverages).



Cold Chain

Most countries have made notable strides in improving and expanding the cold chain, although cold chain failures have been identified through investigations of vaccine failures. Acquisition of new freezers, refrigerators, cold boxes, and thermometers is an ongoing activity in most programs, as is the training of technicians in the repair and maintenance of cold chain equipment. Several countries have had problems obtaining tools and spare parts in adequate quantities to keep their equipment running. A few countries are testing solar refrigeration equipment and have programmed activities related to this new technology.

Revolving Fund for vaccine procurement

During its six years of operation, the EPI Revolving Fund placed vaccine orders worth over US$19 million.

PAHO's Revolving Fund (for the purchase of vaccines and related supplies) received strong support from the United States through a contribution of US$ 1,686,000 to aid in the capitalization of the Fund. This contribution, together with a UNICEF contribution of US$500,000 in 1983, raises the level of capitalization to $4,531,112. In the face of the economic crisis facing many countries of the Region, Revolving Fund procurements have helped to control vaccine costs during a time of rapid inflation.

All countries are receiving adequate quantities of vaccines to cover their target populations, with a large majority obtaining vaccines through the EPI Revolving Fund. The strains of the economic crisis are being noted, as many countries are beginning to have difficulties in availability of local currencies to cover orders from the Fund.

Evaluation

Since November 1980, 18 countries have conducted comprehensive EPI evaluations. Six countries have also held follow up evaluations directed at an assessment of the implementation of the recommendations from the first evaluation.

The evaluations have shown that overall declines in disease incidences have resulted from the progress made in each country's immunization program. Though programs are at different stages of development, it can generally be said that important advances have been made in the areas of vaccine supply, extension of the cold chain, selection of effective vaccination strategies tailored to special needs, training, evaluation, and community participation. Most countries still face significant difficulties in the areas of supervision and information systems--particularly epidemiologic surveillance.

An important advance in most country programs has been the identification of appropriate combinations of vaccination strategies to meet specific country needs. In addition to vaccination in fixed health centers, these strategies include house-to-house vaccination in urban areas, mini-campaigns in rural areas, national immunizations days for selected vaccines (polio, DPT, measles), and mobile brigades to reach remote areas. Many countries already have legislation making vaccination mandatory, and others are working to have such legislation passed in the near future.

The importance of community participation and mass media for a successful immunization program has also been identified in the evaluations. Activities in these areas can be divided into two general areas: use of the mass media (radio, press and television) to educate and motivate the community; and use of community organizations to promote and, in some countries, actively take part in delivery of immunization services. Several countries use pre-existing community organizations such as agricultural cooperatives, neighborhood committees, and volunteer service groups, while others train community leaders to identify individuals in the target populations, schedule vaccination appointments, and follow-up on those who fail to appear for appointments.

International cooperation

Following a memorandum of understanding signed by PAHO and UNICEF in 1983, a greater cooperation and involvement of UNICEF has been seen in all countries in the Region in support of immunization programs and general child survival.

Other bilateral and non-governmental organizations such as USAID and Rotary International have also increased participation and support for these activities. Efforts of these agencies were aided by the Bellagio Task Force for Child Survival, which concentrated world attention on support of immunization programs.

3. REVIEW OF POLIOMYELITIS IN THE AMERICAS, 1969-1984

There have been significant advances in the EPI, as stated above. In some diseases the impact on morbidity has been impressive and this is shown most clearly in the case of poliomyelitis. If similar or greater achievements are to be made in other diseases, it is imperative that we examine in some detail what has occurred in polio and what are the possibilities for the future.

Poliomyelitis is an acute viral infection which may manifest itself as a mild virtually inapparent infection, a nonparalytic febrile illness, an aseptic meningitis, severe paralitic disease and possible death. The only reservoir for the infectious agent is man, most frequently persons with inapparent infectious, especially children. Long term carriers have not been found.

Morbidity trends

During the 16-year period 1969-1984, a total of 53,251 cases of poliomyelitis were reported to have occurred in the 46 countries and territories that comprise the American Region.

The Ten-Year Health Plan for the Americas in the 1970's took as a goal to reduce the morbidity due to poliomyelitis to less than 0.1 cases per 100,000 population. If we assume that a country has achieved control of poliomyelitis when five or more consecutive years have gone by with an annual reported incidence of less than 0.1 cases per 100,000 population (allowing for two expected epidemic cycles to have passed), then by 1984, 26 (56.5%) countries had achieved control (Table 2).

Table 2: Poliomyelitis in the Americas : Countries reporting incidences of less than 0.1 per 100,000 population for five or more years.

1984

Anguilla
Antigua and Barbuda
Bahamas
Barbados
Bermuda
Canada
Chile
Cayman Islands
Costa Rica
Cuba
Dominica
Guadeloupe
Grenada
Martinique
Montserrat
Panama
Puerto Rico
St. Kitts-Nevis
Saint Lucia
St. Vincent and the Grenadines
Trinidad and Tobago
Turks and Caicos Islands
United States of America
Uruguay
Virgin Islands (UK)
Virgin Islands (USA)

Figure 3 shows the annual incidence (per 100,000 population) of paralytic poliomyelitis for the Americas during the period 1969-1984. In 1984, for the first time, the reported incidence was below the stated 1979 goal.

The EPI was ratified in the Americas in 1977, with implementation of its strategies begun in 1978. Table 3 shows the mean number of cases of paralytic poliomyelitis reported annually (by geographic region) for two time periods: the first, 1969-1977 (pre-EPI implementation); the second, 1978-1984 (post-EPI implementation); and the percentage reduction in reported cases for the latter period. All regions in the Americas have shown a decrease in reporting of cases of poliomyelitis since the implementation of the EPI.

Vaccination Coverages

Table 4 presents the reported coverages of the less-than-one-year-old population with three or more doses of polio vaccine during the period 1978-1984, since the adoption of the EPI in the Americas. During this period, the proportion of countries reporting coverages have increased from 68% in 1978 to 95% in 1983 (Canada and the United States of America do not report coverages for the less-than-one-year-old-population). Overall, the proportion of less-than-one-year-olds with three or more doses of polio vaccine in the Americas has increased from 34.6% in 1978 to greater than 75% in 1984.

Of significance is the fact that during the period 1978-1983, 19 countries demonstrated steadily increasing trends of coverage, suggestive of major success in their immunization programs.

FIGURE 3

ANNUAL REPORTED MORBIDITY DUE TO POLIOMYELITIS (PER 100 000 POPULATION) AMERICAS 1969-1984

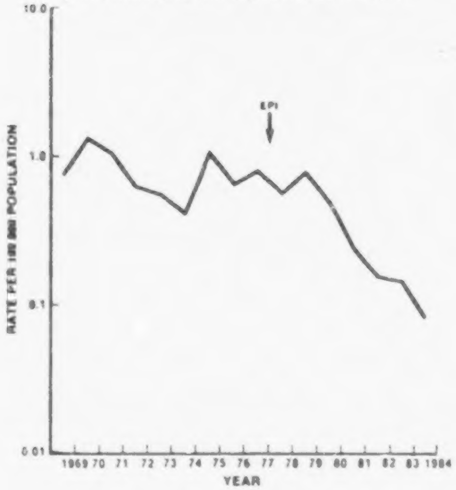


Table 3: Mean number of cases of poliomyelitis reported annually in the Americas pre- versus post-EPI implementation and percentage reduction, by region.

Region	Pre-EPI implementation 1969-1977	Post-EPI implementation 1978-1984	% reduction
North America	20	15	25
Middle America			
Continental	1,062	731	31
Caribbean	29	9	69
South America			
Tropical	3,011	1,342	55
Temperate	151	15	90
TOTAL	4,274	2,112	50

Table 4: Coverages of the less than one year old population with three or more doses of polio vaccine by country in the Americas, 1978-1984

Subregion and Country 1981	% coverage by year						
		1978 1982			1979 1983		1980 1984
North America							
Bermuda	...	...	39	...	68	53	48
Canada	...	...	...	...	...	...	...
United States	...	...	...	...	...	...	...
Caribbean							
Anguilla	77	48	86	81	86	99	73
Antigua & Barbuda	53	...	36	47	90	99	93
Bahamas	99	27	35	40	67	65	62
Barbados	56	60	99	54	63	62	77
British Virgin Is.	...	14	95	70	94	75	85
Cayman Islands	31	52	47	63	91	90	90
Cuba[a]	99	97	99	82	82	95	99
Dominica	20	31	53	97	73	92	82
Dominican Republic	28	35	46	42	37	22	99
Grenada	...	6	32	41	61	72	75
Haiti	1	3	2	3	7	6	12
Jamaica	...	...	34	37	68	47	56
Montserrat	63	5	38	55	95	95	82
Saint Lucia	32	...	58	65	81	80	84
St. Kitts/Nevis	...	25	76	71	93	91	97
St. Vincent	5	...	26	33	99	84	90
Trinidad & Tobago	45	28	38	55	59	61	66
Turks & Caicos Is.	...	21	44	27	80	79	70
Continental Mid America							
Belize	45	42	21	51	52	61	54
Costa Rica	58	44	67	85	78	54	81
El Salvador[a]	...	57	42	38	42	48	44
Guatemala[a]	...	62	43	42	45	44	37
Honduras	7	25	32	37	53	70	84
Mexico	...	11	43	85	85	74	91
Nicaragua	18	...	99	52	50	30	73
Panama	41	57	45	50	61	60	70
Tropical South America							
Bolivia	3	12	14	15	15	11	57
Brazil[a]	34	49	99	99	99	99	89
Colombia	17	19	16	22	27	42	60
Ecuador	10	16	14	19	36	34	36
Guyana	31	37	42	37	73	59	41
Paraguay	2	5	14	26	39	47	59
Peru	21	19	16	20	23	18	26
Suriname	...	20	24	22	53	83	66
Venezuela	83	88	95	75	77	67	59
Temperate South America							
Argentina	...	5	31	38	94	94	64
Chile	98	97	91	93	98	93	87
Uruguay[a]	52	58	59	58	72	74	83
TOTAL[b]	34	34	59	69	74	72	78

a) Second instead of third dose data.

b) Includes only countries with available data.

... Data not available.

4. PROPOSAL FOR ACTION

4.1 Rationale

Significant progress has been achieved during the past few years in the American Region with regard to the delivery of health services, appropriate strategies for vaccination, increasing immunization coverages, program evaluation and disease surveillance. All countries in the Region are now engaged in national immunization programs. The epidemiological situation of poliomyelitis is particularly promising and deserves special attention, as a striking reduction in incidence already has been observed, primarily as a result of intensified vaccination strategies developed in several countries of the Region. The number of reported cases has decreased from 4,728 in 1979 to 489 in 1984, and now 26 countries are considered to have achieved poliomyelitis control. Only 11 countries reported cases of paralytic poliomyelitis in 1984 (Table 5).

The data presented confirm that an additional effort directed specifically at this disease in priority countries, can lead to the interruption of indigenous poliovirus transmission in the Hemisphere in a short period of time.

The eradication of indigenous transmission of wild poliovirus in the American Region deserves immediate Hemispheric action. The necessary elements to ensure program success are assured by the strong commitment presently shown by the countries and several multilateral, bilateral and non-governmental organizations towards immunization and child survival.

The observation that reported cases in 1984 were at an all time low, further indicates that the timing is propitious and that eradication of indigenous transmission in the Americas is feasible now.

IT IS UNACCEPTABLE, GIVEN THE TECHNOLOGY PRESENTLY AVAILABLE, THAT ANY CHILD IN THIS HEMISPHERE SHOULD SUFFER FROM POLIOMYELITIS.

4.2 Objectives

The proposed plan of action has three primary objectives:

a) To promote the overall development of the Expanded Program on Immunization in the Region, and to speed up the attainment of its objectives.

b) To eradicate indigenous transmission of wild polioviruses in the American Region by the year 1990.

c) To set up a surveillance system at regional and national levels, so that all suspected cases will be immediately investigated and control measures that will stop transmission within one month will be implemented.

4.3 Requirements

Political commitment and international support

The successes of the recent history of the EPI in the Americas demonstrate that there are no major technical problems to be overcome in order to interrupt indigenous transmission of wild poliovirus in the Region. The variable results in the EPI and in polio control seen in the different countries are not related to stages in their economic development, but rather to the degree of political commitment of the respective governments.

To implement the hemispheric effort to eradicate indigenous transmission of wild poliovirus, a high level of coordination among the countries and the international agencies is absolutely necessary. Under the leadership of PAHO, the international agencies should play an important role in urging the national governments to join this enterprise to ensure the needed political and administrative support. PAHO will assume a major role in securing additional financial and technical assistance and in coordinating all inputs. It is estimated that US$100 million over the next five years, with approximately one-third coming from outside donor agencies and countries, will be necessary to achieve this goal. These funds will be used for such expenses as additional personnel; laboratory development and maintenance, including supplies; activities related to surveillance and outbreak control; vaccine quality control; and cold chain development. Funds will be sought from regular budgetary allocations, extrabudgetary sources from multilateral, bilateral and nongovernmental organizations and for direct aid at the country level.

In addition, PAHO will maximize coordination among all agencies supporting the hemispheric eradication of wild poliovirus transmission and coordinate implementation of operational research needed to address problems that are identified and also verify that eradication has occurred in countries so reporting.

This proposal for action must be the joint venture of all nations in this Hemisphere, and it calls for mobilization of national resources, including communities. It will require technical cooperation among countries with the support of PAHO and other international agencies.

Surveillance and control

Intensive surveillance is the most critical element for the success of the EPI. One of the major problems to be addressed in a polio eradication effort in the Region is related to surveillance.

If there is to be regional eradication of indigenous transmission of wild poliovirus, all suspected poliomyelitis cases must be thoroughly investigated immediately, with appropriate control measures instituted as soon as possible, especially in areas where there has been no polio activity and there is importation of a case.

Surveillance of poliomyelitis shall include:

a) Establishment of a reporting system for all paralytic illness compatible with poliomyelitis, using standarized procedures and definitions. This system must incorporate all institutions which are likely to see cases, and it will also help to strengthen disease surveillance in general.

b) Each suspected case should be regarded as a national and regional emergency and control measures instituted immediately, with assistance from international support teams of skilled professionals for the epidemiological investigation of outbreaks, under the coordination of PAHO.

c) The development of laboratory support networks to analyze stool samples and paired sera from all suspected cases. Reference laboratories should be established to provide more sophisticated tests, including genetic characterization of poliovirus isolates.

With the appearance of isolated cases in countries it will be important to identify if the cases are due to wild strains or due to other viruses. This will require assistance from laboratories with these capabilities.

While serological confirmation of poliovirus antibodies is available in most countries, there are still problems inherent in the collection of appropriate specimens, and many of the cases are not confirmed. In some countries, suspected cases are discarded due to an absence of laboratory confirmation. The problems behind the low laboratory confirmation rates relate to delayed notification of the cases and to inabilities to develop the logistic systems necessary to transport the specimens from the field into the laboratories. Development of these logistics systems will have a high priority in the proposed plan of action.

5. CONCLUSION

In view of the major successes noted, the Director of the Pan American Sanitary Bureau proposes strong action by Member Government to achieve hemispheric eradication of the indigenous transmission of wild poliovirus by 1990.

Table 5: NUMBER OF POLIO CASES IN THE AMERICAS
BY COUNTRY 1975-1984

COUNTRY	Mean N° of cases		N° of cases			
	75-77	78-80	81	82	83	84
BERMUDA	-	-	-	-	-	-
CANADA	1	4	-	-	-	-
USA	13	20	7	9	12	7
ANGUILLA	-	-	-	-	-	-
ANTIGUA AND BARBUDA	-	-	-	-	-	-
BAHAMAS	-	-	-	-	-	-
B.V. IS.	-	-	-	-	-	-
CAYMAN	-	-	-	-	-	-
CUBA	-	-	-	-	-	-
DOMINICA	-	-	-	-	-	-
GRENADA	-	-	-	-	-	-
HAITI	25	16	35	35	62	27
JAMAICA	-	-	-	58	-	-
MONTSERRAT	-	-	-	-	-	-
ST. LUCIA	-	-	-	-	-	-
ST. KITTS NEVIS	-	-	-	-	-	-
ST. VINCENT	-	-	-	-	-	-
TRINIDAD AND TOBAGO	-	-	-	-	-	-
TURKS AND CAICOS	-	-	-	-	-	-
DOMINICAN REPUBLIC	63	107	72	70	7	-
FRENCH GUYANA	-	-	-	-	1	-
BELIZE	-	2	-	-	-	-
COSTA RICA	-	-	-	-	-	-
EL SALVADOR	38	23	52	16	88	19
GUATEMALA	39	116	42	136	208	17
HONDURAS	78	101	18	8	8	76
MEXICO	710	966	186	98	232	137
NICARAGUA	26	36	46	-	-	-
PANAMA	-	-	-	-	-	-
BOLIVIA	138	121	15	10	7	-
BRAZIL	2807	1854	122	69	45	82
COLOMBIA	525	305	576	187	88	18
ECUADOR	45	10	11	11	5	-
GUYANA	2	-	-	-	-	-
PARAGUAY	74	20	60	71	11	3
PERU	136	120	149	150	111	102
SURINAME	-	-	-	1	-	-
VENEZUELA	44	34	68	30	-	-
ARGENTINA	2	22	5	10	26	-
CHILE	-	-	-	-	-	-
URUGUAY	6	-	-	-	-	-
TOTAL	4772	3877	1464	969	911	489
NUMBER OF COUNTRIES	19	18	16	17	15	11

POLIO ANNOUNCEMENT

MESSAGES RECEIVED FROM MEMBER COUNTRIES

MENSAJES RECIBIDOS DE LOS PAISES MIEMBROS

MENSAJE DEL MINISTRO DE SALUD Y ACCION SOCIAL DE ARGENTINA

ME HA RESULTADO IMPOSIBLE ACOMPAÑARLOS, COMO HUBIERA SIDO MI GUSTO, EN EL LANZAMIENTO DEL PROGRAMA DE ERRADICACION DE LA POLIOMELITIS PARA 1990. PERO QUIERO QUE USTED Y MIS COLEGAS MINISTROS DE OTROS PAISES HERMANOS SEPAN QUE LA ARGENTINA ESTA A VUESTRO LADO EN ESTA CRUZADA. NADA COMO UNA BUENA CAUSA PARA MIRAR AL FUTURO CON OPTIMISMO. ADEMAS, NUESTROS PUEBLOS NECESITAN DE ELLAS PARA APRENDER A COMPARTIRLAS Y CONSTRUIR JUNTOS EL PROPIO DESTINO. ERRADICAR LA POLIO ES UNA DE ESAS BUENAS CAUSAS. PODEMOS HACERLO Y LO HAREMOS.

TODA NUESTRA SOLIDARIDAD EN UN ABRAZO.

ALDO NERI
MINISTRO DE SALUD Y ACCION SOCIAL
ARGENTINA

GINEBRA, MAYO DE 1985

MENSAJE DEL MINISTRO DE SALUD DE BRASIL

OS GRAVES PROBLEMAS ECONOMICOS ET SOCIAIS QUE AFLIGEM OS PAISES EM DEVENVOLVIMENTO, COM REFLEXOS DANOSOS SOBRE A ATUAÇAO DO SETOR SAUDE, VEM DEMONSTRAR QUE, ALEM DE FIRME DETERMINAÇAO POLICITA DOS GOVERNOS, O PROPOSITO DE ASSEGURAR SAUDE PARA TODOS DEPENDE TAMBEM DA CAPACIDA DE DESENVOLVER INSTITUCIONALMENTE OS SERVIÇOS DE SAUDE PARA O DESEMPENHO EFICIENTE DAS AÇOES QUE SAO PRIORITARIAS. NESSE SENTIDO, AS ATIVIDADES DE IMUNIZAÇOES CONSTITUEM PODEROSO INSTRUMENTO PARA PROMOVER BASES DE ORGANIZAÇAO E DE CAPACITAÇAO INSTITUCIONAL-GERENCIAL PAR A O DESENVOLVIMENTO DE PROGRAMAS DE SAUDE, POR CONTEMPLAR UM COMPLEXO DIVERSIFICADO DE VARIAVEIS VOLTADAS A ATINGIR OBJETIVOS CLAROS E PALPAVEIS - SIMPLICIDADE TECNICA DE EXECUÇAO, UNIVERSALIDADE DE COBERTURA, BAIXO CUSTO EM RELAÇAO AO BENEFICIO, PARTICIPAÇAO COMUNITARIA, LOGISTICA DE PRODUÇAO E SUPRIMENTO DE BIOLOGICOS, ORGANIZAÇAO DE ESTRUTURA GERENCIAL EM TODOS OS NIVEIS, AVALIAÇAO OPERACIONAL, VIGILANCIA EPIDEMIOLOGICA, APOIO LABORATORIAL. EMBORA APRESENTANDO CARACTERISTICAS BASICAS COMUNS, AS ESTRATEGIAS DE AÇAO DEVEM NECESSARIAMENTE VARIAR PARA CADA DOENÇA E PARA CADA TIPO DE IMUNIZANTE, ASSIM COMO OS OBJETIVOS DO PROGRAMA DEVEM SER PARMANENTEMENTE REAJUSTADOS EM FUNÇAO DOS RESULTADOS OBTIDOS E DE NOVAS PERSPECTIVAS QUE SAO VISLUMBRADAS.

A POLIOMIELITE CONSTITUI-SE HOJE A DOENÇA MAIS VULNERAVEL AAS AÇOES DE CONTROLE, COMO DEMONSTRA A HISTORIA RECENTE DO COMBATE AA ENFERMIDADE EM NOSSO CONTINENTE. A INTENSIFICAÇAO DAS ATIVIDADES DE VACINA ÇAO PRODUZ NITIDO E IMEDIATO IMPACTO SOBRE A DOENÇA. A MANUTENÇAO DE

ELEVADOS NIVEIS DE COBERTURA VACINAL EH PERFEITAMENTE FACTIVEL COMO O APOIO DA COMUNIDADE, TAL A SIMPLIFICAÇAO DA TECNOLOGIA DISPONIVEL ET O ANSEIO GENERALIZADO DE COLABORAÇAO QUE O TEMOR AA DOENÇA DESPERTA. O DESENVOLVIMENTO DE ATIVIDADES DE VIGILANCIA EPIDEMIOLOGICA, INDISPENSAVEL PARA ASSEGURAR O EXITO DE UMA AÇAO MAIS DECIDIDA, E UMA REALIDADE NA MAIORIA DOS PAISES.

PODE-SE HOJE AFIRMAR QUE ESTAO CUMPRIDOS TODOS OS REQUISITOS NECESSARIOS PARA QUE A POLIOMIELITE DEIXE DE CONSTITUIR UMA AMEAÇAO AA POPULAÇAO DE NOSSOS PAISES: NAO MAIS SE JUSTIFICAM NOVOS CASOS PARALITICOS POR ESSA CAUSA, COMO SEU SEQUITO DE CONSEQUENCIAS MEDICAS E SOCIAIS. A OCORRENCIA DE EPIDEMIAS DE POLIOMIELITE REPRESENTA, ANTES DE TUDO, NEGLIGENCIA IMPERDOAVEL.

O MINISTERIO DA SAUDE DO BRASIL CONGRATULA-SE COMO A ORGANIZAÇAO PAN AMERICANA DA SAUDE PELA OPORTUNA INICIATIVA ORA ANUNCIADA E REUNE-SE COM TODO ENTUSIASMO A ESSE AMPLO ESFORÇO OBJETIVANDO A ERRADICAÇAO DA POLIOMIELITE EM NOSSO HEMISFERIO ATE 1990.

CARLOS CORREA DE MENEZES SANT'ANNA
MINISTRO DE ESTADO SAUDE
MINISTERIO DA SAUDE / BRASIL

BRASILIA, 9 MAI 1985

MENSAJE RECIBIDO DEL MINISTRO DE SALUD
DE CHILE

GOBIERNO CHILE APOYA CON ENTUSIASMO INICIATIVA O.P.S. ERRADICACION POLIO 1990 DENTRO PROGRAMA PAI. OFRECE AMPLIA COLABORACION.

WINSTON CHINCHON BUNTING
MINISTRO DE SALUD
SANTIAGO, CHILE

Mensaje recibido a través del Sr. Juan Larraín, Ministro Consejero, Representante Interino, Delegación Permanente de Chile ante la Organización de los Estados Americanos, Washington, D.C., 10 de mayo de 1985.

MENSAJE DEL MINISTRO DE SALUD DEL PERU

ATT: DR. CARLYLE GUERRA DE MACEDO, DIRECTOR, OPS

EL GOBIERNO DEL PERU POR MI INTERMEDIO DESEA EXPRESAR SU MAS COMPLETO ACUERDO CON SU DECLARACION SOBRE LA ERRADICACION DE LA POLIOMELITIS DE LA REGION DE LAS AMERICAS, Y ASEGURARLE QUE EL MINISTERIO DE SALUD Y TODOS LOS COMPONENTES DEL SECTOR SALUD DEL PERU, APOYARAN DECIDIDAMENTE LA CONSECUSION DE ESTA META, MEDIANTE LA IMPLEMENTACION DE LAS ACTIVIDADES QUE SE DEFINAN AL RESPECTO.

ATENTAMENTE,

DR. CARLOS BAZAN ZENDER, MINISTRO DE SALUD DEL PERU

9 MAYO 1985 LIMA PERU

PAN AMERICAN HEALTH ORGANIZATION,
PAN AMERICAN SANITARY BUREAU, REGIONAL OFFICE OF THE
WORLD HEALTH ORGANIZATION,
Washington, DC, May 17, 1985.

Hon. COOPER EVANS,
House of Representatives,
Washington, DC.

DEAR MR. EVANS: I wanted to take this opportunity to express my appreciation for your evident interest and concern for the health of the children of the Americas. I am enclosing for your information a copy of the declaration announcing a five-year massive effort to eradicate transmission of wild poliovirus from the Americas by 1990.

Further, I would like to complement and clarify my response to your question on the activities needed to maintain poliomyelitis eradicated from this hemisphere beyond 1990. We will need to develop a very effective surveillance system that is sensitive enough to detect any case of polio.

In an ideal situation, in which there would be no risk of importations from other regions of the world, this should suffice. However, we do not expect that this will be the case by 1990, therefore we will also need to continue normal vaccination activities geared to the new cohorts of children born every year, to maintain high level of immunity and avoid spread of the disease should any importation be detected.

It is also important to keep in mind that our program is geared to six priority diseases including, besides poliomyelitis, measles, diphtheria, whooping cough, tuberculosis and tetanus. We have to continue these vaccinations as well. The accelerated campaign of the next five years will permit the countries to organize an infrastructure of human resources for disease control and a network of laboratories for back-up surveillance. With those structures in place, national basic health services will be able to sustain a high level of vaccination coverage in the population at risk. When the day comes, and we hope it will not be too distant, that all other regions in the world achieve the global eradication of wild poliovirus, then we can discontinue vaccination against this disease.

Again, I appreciated your interest and concern and I hope that you and your colleagues will find ways to support the efforts of the countries of our region to achieving the eradication of polio by 1990.

Sincerely yours,

CARLYLE GUERRA DE MACEDO,
Director.

ANNOUNCEMENT BY DR. CARLYLE GUERRA DE MACEDO, DIRECTOR, PAN AMERICAN HEALTH ORGANIZATION

I am pleased to welcome so many distinguished scientific, political, and diplomatic leaders this morning to the Pan American Health Organization. Your presence here at PAHO demonstrates once more the combined commitment of the countries of the hemisphere to the struggle against disease in the Americas.

As the Regional Office of the World Health Organization in this hemisphere, PAHO has a permanent task of working with its member countries in pursuit of Health For All by the Year 2000. That responsibility is even greater when it touches our children.

Throughout the world, some 5 million children under five years of age die each year from diseases which we can prevent with medicines and relatively common technology available to us today. They die mainly of poor perinatal care, of hunger or of some infection. In the countries of the Americas, 800,000 children die each year from preventable diseases, as many children as the number of people who live in this city. It is as if an entire city the size of Washington, its inhabitants only children, were to be destroyed every year.

The tragedy is that those lives are lost not because we do not know how to prevent or control those diseases, but because we have failed to assure all children access to the benefits of the knowledge we possess.

Perhaps the most effective and efficient of all the health technologies known to man is immunization. The geniuses of sciences, and many are here today, have developed effective vaccines which protect against most of the childhood infectious diseases. Yet, 80 per cent of the world's children do not receive that protection. Even here in the Americas, 4 million children born every year do not yet have access to vaccination against those childhood killer diseases.

Around the world, every six seconds, one child dies and another is disabled because of the failure to immunize against those diseases. . . . In that space of time, a child has died because of the lack of immunization.

A decade ago, the World Health Organization sought to counter this threat to the children of the world by establishing the Expanded Program on Immunization. In 1977, it was begun here at PAHO with the aim of preventing six diseases—measles, diphtheria, tetanus, whooping cough, tuberculosis and poliomyelitis.

We created a revolving fund, financed by special contributions of several donor countries. Last year, PAHO received a special grant from the United States to complete that fund. PAHO now can purchase vaccines for the participating countries at the lowest possible cost. Reducing the cost means reaching more children.

Much has been achieved since 1977. A vast number of health workers have been trained. Cold chain systems that keep the vaccines viable have been organized and are being maintained in country after country. Immunization is one of the top priorities in the national health plans of every country of this region.

In 1977, immunization reached between 25–30 percent of the children. By 1984, we saw the countries double that coverage, extending that fundamental life-saving technology to 60 per cent of the children at risk. The gap is still enormous: too many children still suffer needless illnesses and too many still die.

The most dramatic advances have been made with polio immunization where we have boosted coverage nearly three-fold to 75 per cent of those under one year of age since 1977. But the disease has not been conquered: by 1990, if nothing new is done and if the number of new victims reported in 1984 is repeated year by year, there will be at least 2,500 more children paralyzed, crippled or dead because of this acute viral disease.

We must put an end, once and for all, to that spectre of crippling disease which still looms before the children of the Americas. Without the eradication of the polio virus, the chances of a sudden outbreak of polio still exists. Eradicating the virus from this hemisphere is the only sure way to protect our children from the threat of that disease.

We have the means available to accomplish that goal, thanks to many of the men who are with us today. These remarkable scientists have given us the tools to put an end to the sight of children in wheel chairs or hospital beds because of polio. Drs. Frederick Robbins, and Thomas Weller, along with Dr. John Enders, received the Nobel Prize for their pioneering work with tissue culture which made a vaccine possible.

The final developers of the vaccines also are with us today, and their great contribution to the well-being of children has made their names household words—Dr. Jonas Salk and Dr. Albert Sabin.

They have made it possible. But there are others who have helped to make it feasible. The many multilateral, bilateral and nongovernmental agencies—most of which are represented here today—helped create the necessary network of external support for the countries of the world.

UNICEF, through its strong advocacy of child survival, has raised international awareness, motivated governments and provided important resources for immunization. UNICEF and PAHO have developed an unprecedented an extraordinary cooperative relationship. Throughout the Americas, we are working side by side sharing goals, projects and resources.

UNDP and UNFPA have promoted vaccine quality programs and strengthened maternal and child health services.

The Inter-American Development and the World Bank have emphasized immunization in financing development and health projects in the Americas.

USAID and other bilateral cooperation agencies, have given substantial priority to programs in child health, especially immunization and oral rehydration.

Rotary International is a stellar example of the spirit of voluntary action by citizens around the world. It has dedicated itself to make the elimination of polio its highest priority.

Some of these organizations are part of the Group which met under international auspices at Bellagio to commit themselves to protect the world's children through immunization.

The work of the individuals whom I have cited, the collaborative actions of the various agencies I have mentioned and above all, the progress of the countries themselves, have convinced us that it is feasible today to interrupt the transmission of wild polio virus in this hemisphere by 1990. We are convinced that it is possible to reduce the number of cases from 500 annually to zero.

We are proposing that the member countries of PAHO be supported by all of us to achieve the eradication of polio from the Americas in a massive final 5-year effort.

The time has come for us to say that it is unacceptable for any child in the Americas to suffer from polio.

We saw nearly 200 years elapse between Jenner's vaccination experiments and the elimination of smallpox from the Americas and the world. The genius of man has made it possible for us to consider a time much shorter between the first vaccinations for polio and its elimination from our hemisphere. The Americas was the first Region to eliminate smallpox; we can be the first to eliminate polio.

It will not be an easy task, but we are convinced that our plan of action can work. It will focus on the accelaration of the Expanded Program of Immunization with special vaccination strategies in each country, supported by effective disease surveillance and control and training of health workers. It will strengthen the countries' maternal and child health services which are so vital for the health of our children.

We will be tapping the voluntary organizations in every country, inviting the participation of the mass media and mobilizing individual families and communities. We will promote a nationwide effort in every country, dedicated to a common strategy, committed to a common goal.

The drive to eliminate polio will be the vehicle that will carry the nations of the hemisphere toward the EPI goals of universal immunization against the childhood diseases by 1990.

We estimate that the cost of halting the transmission of wild poliovirus from the Americas will be approximately $100 million over the next 5 years. We believe that we will obtain one-third of that amount from donor countries and institutions and part of that amount already is included in their current and future budget plans. The remainder will come from the countries themselves, in spite of the financial crisis which currently pervades this region. For most of them, it will mean the reprogramming and more efficient utilization of resources which are already being spent in health.

I am convinced that this commitment by the nations of the Americas to eradicate polio will not fail because of the lack of financial resources. The long-term economic return will far outweigh the actual costs of the effort, although my personal conviction is that it is time to stop using economic indicators alone to measure the development and well being of children.

Although individual countries have shown that it can be done, sceptics will say this is too ambitious an undertaking. I say it is the least that we can do. For I dream of a time when we have not only rid this hemisphere of the curse of polio, but of a time when, for every child, the future is, as the poet wrote, "a world to be born under your footsteps." We can build a better world for our children. We can make a revolution in health. We need only to decide to work together to do it.

Let us now take this first step toward that future by eradicating polio from the Americas by 1990: I trust that we or others like us will meet here at that time to rejoice in our having achieved the goal we have set today.

Once more, in this special struggle to eradicate polio, health must and will be a bridge for solidarity and understanding between the peoples and countries of the Americas, a bridge for peace and well-being.

PREPARED STATEMENT OF ALFRED SOMMER, M.D., DIRECTOR, DANA CENTER FOR PREVENTIVE OPHTHALMOLOGY, THE JOHNS HOPKINS MEDICAL INSTITUTIONS

VITAMIN A DEFICIENCY AS A MAJOR CAUSE OF CHILDHOOD MORBIDITY AND MORTALITY

Vitamin A deficiency is extremely common throughout the developing world. At least five to ten million children develop nightblindness and other eye manifestations of vitamin A deficiency every year, and a quarter million of these children go blind. The number of children with subclinical vitamin A deficiency, who suffer other adverse effects, but who do not have obvious ocular manifestations of the disease, probably reaches twenty million children throughout Asia, Africa, and Latin America.

The earliest studies on children with inadequate vitamin A in their diet suggested that vitamin A deficiency was important for general health and resistance to infection. Those observations were largely forgotten, being overshadowed by the dramatic changes observed in the eye.

Recent studies in Indonesia indicate the impact of subclinical vitamin A deficiency on childhood survivial may well be a far greater problem than changes in the eye. The first study, in which 4,000 children were followed for 18 months during 1977–78, demonstrated that those children with very early, mild eye changes died at 4 to 12 times the rate of otherwise identical children who did not have early eye changes. Evaluation of the survivors showed that the reason for the increased mortality among children with eye signs of vitamin A deficiency was probably increased risks of respiratory disease and diarrhea, which occurred at two to three times the rate compared with children without nightblindness and other early signs of vitamin A deficiency.

Following-up on these observations, a controlled community-based trial was carried out in an entirely different area of Indonesia. Thirty thousand children in 450 villages were randomly assigned to participate in a vitamin A supplementation program, whereby each assigned child was to receive a large-dose (200,000 IU) of vitamin A once every 6 months. The Government of Indonesia had planned such a vitamin A distribution program in the area but could only cover one-half the villages over a 2-year period. Those villages were selected randomly and the mortality rates of children in the selected villages were compared with children in the neighboring villages. A baseline examination was carried out, during which all children with evidence of vitamin A deficiency, regardless of which village they lived in, were treated with vitamin A. All children were re-examined one year following their initial examination. Children living in villages without the vitamin A supplementation program had a mortality rate over thirty percent greater than children in the supplemented villages. As children below 1 year of age were not eligible for receiving a vitamin A capsule in this program, a more revealing comparison is the mortality rate among children 1 to 5 years of age in the two study populations. In this age group, mortality rates among nonsupplemented villages were 50 percent higher than they were in program villages. From the other perspective, vitamin A supplementation reduced childhood mortality by one-third.

These two entirely independent investigations, and the observations made much earlier in this century, all suggest that vitamin A status is an important determinant of childhood survival, and that vitamin A intervention programs can have a dramatic impact on childhood mortality, respiratory disease, and diarrhea. In a small pilot study in Tanzania, large dose supplementation of children with measles cut measles-related mortality in half. These latest studies, carried out in areas of only modest vitamin A deficiency, suggest that twenty to thirty-five percent of all childhood mortality may be related to vitamin A deficiency, probably by moderating a child's susceptibility or response to respiratory disease, diarrhea, and other infectious diseases.

These results make it imperative that vitamin A supplementation programs, either through periodic distribution of high-dose capsules, fortification of widely consumed items, or nutrition educational and horticultural techniques aimed at increasing dietary intake of natural sources of vitamin and pro-vitamin A, be widely encouraged. In addition, it is important to document, through similar studies in widely varying cultures, exactly which ones would benefit from vitamin A supplementation.

Clearly, vitamin A supplementation in Indonesia, and quite likely many other countries, is probably the cheapest, most practical means of increasing child survival. The United States Agency for International Development, and particularly its Office of Nutrition, has played a critical role over the past 10 to 12 years generating basic information necessary for planning and conducting vitamin A intervention programs, mapping out the magnitude and distribuiton of vitamin A deficiency around the world, and supporting the studies that indicate vitamin A status is critical to child survival. We are now in a critical stage at which something extremely positive can be accomplished. It is important that adequate funds, at least three and a half million dollars a year, be made available on a regular and long-term basis to take advantage of this unique opportunity and provide a meaningful impact on childhood survival in the developing world.

Thank you for your interest and support.

PREPARED STATEMENT OF JOHN H. COSTELLO, EXECUTIVE DIRECTOR, HELEN KELLER INTERNATIONAL

I am John H. Costello, Executive Director of Helen Keller International. My purpose today is to speak on behalf of the malnourished children of the world and to press for increased U.S. Government assistant through private voluntary organizations to ensure their survival. Recent events in Africa, recurrent famine in Asia, and chronic food shortages for millions of young people make clear the urgency of increased health and nutrition programs for the well-being of this generation. To borrow a phrase from Jim Grant, the needs of these children have ignited a "Child

Survival Revolution" which has stirred the hearts and imaginations of all Americans.

Because I represent a private voluntary organization [PVO] that has spent nearly 15 years on epidemiological and operational research with a single nutrient, vitamin A, I shall dwell on the results of that research and on the tragic implications of vitamin A deficiency. Our challenge in 1971 began with the good news that the eyes of 10 million children suffering the symptoms of nutritional blindness can be saved with low-cost vitamin A supplements. And it has led to the conclusion that the very same low-cost vitamin A supplements can save these vulnerable children from diarrheal and respiratory diseases that also claim their lives.

I truly believe we are now adding a new salvo to the child survival revolution which is sweeping our country and the rest of the world. Vitamin A is now a full-fledged part of child survival—a simple, low, cost, easy-to-deliver intervention that can save the sight and lives of millions of the world's most vulnerable children.

Helen Keller International [HKI] was founded in 1915 by Helen Keller herself and other Americans to help Allied soldiers blinded in World War I. Today, actively supported by more than 100,000 Americans from every state, it is the major U.S. organization dealing with the enormous problems of eye disease and blindness overseas. In sum, Helen Keller International has worked in more than 80 countries. Our objective is to restore blind people to productive lives through rehabilitation and, most importantly to prevent the avoidable blindness which now robs more than 37 million people of their sight. Even more shocking is the fact that this number will double in the next 15 years, if our efforts are not maintained and increased.

Helen Keller International's current prevention programs deliver basic eye care to the poor and rural people of developing countries. We concentrate on the control of the three major causes of avoidable blindness: xerophthalmia, trachoma, and cataract. However, xerophthalmia, commonly known as nutritional blindness, because it comes from severe vitamin A deficiency, has long been HKI's primary focus.

In fact, since 1970, HKI has been the leading institution involved in promoting prevention of vitamin A deficiency, and HKI has played a key role in expanding knowledge of its etiology and distribution, its prevention and treatment. We have proved that vitamin A deficiency is the leading cause of child blindness, that up to 10 million young children under six suffer symptoms every year, and that some 500,000 become irreversibly blind annually. We have also shown how nutritional blindness can be prevented with a megadose at 200,000 International Units [IU] of vitamin A delivered every 6 months, at a cost of 2 cents for each dose. And now we have the electrifying evidence that this same dose of vitamin A may also prevent the death of millions of children.

The ancient Egyptians and the Greeks knew that without adequate amounts of certain foods, the eyes, especially those of growing children, dried and withered—thus the name xerophthalmia, for "dry eye." Of course, the ideal control for xerophthalmia is enough vitamin A-rich food (green leafy vegetables) for the world's children. But, until that day, we must apply the modern, low-cost technology to protect the eyes of a malnourished child for six months by giving him a synthetic vitamin A supplement. The cost per child per year is one dollar, including nutrition education.

Since 1973, in Indonesia, Bangladesh, and Haiti, where nutritional blindness is a problem of public health dimension, HKI has become expert in assisting governments and networks of health workers to distribute vitamin A supplements to literally millions of children at risk. And we constantly evaluate and hone the distribution system in order to reach the children at greatest risk.

In 1976, with major funding from AID and in collaboration with WHO, UNICEF, and the government of Indonesia, HKI organized and conducted the first major longitudinal study of vitamin A deficiency, which proved that oral dosing of children with 200,000 IU of vitamin A, packed into a capsule the size of a pea, is just as effective as the old-fashioned costly and difficult treatment with injections. Also, as a result of this important initial research, the world public health community was able to gauge the real magnitude of vitamin A deficiency and blindness. On another level, this initial study convinced the Government of Indonesia to establish prevention of nutritional blindness as a major health priority. The Ministry of Health requested the continued assistance of Helen Keller International in the design of a countrywide control strategy and committed very substantial manpower and funds of their own. HKI's activities, partially supported by a co-financing grant from USAID Jakarta, established a surveillance system, large-scale capsule distribution, nutrition education, and, now, important research into the effectiveness of food fortification with vitamin A.

A second study by Helen Keller International in collaboration with the International Center for Epidemiological and Preventive Ophthalmology of Johns Hopkins University and the Government of Indonesia, from 1982 to 1984, looked at the coverage and impact of capsule distribution in the Aceh province of Sumatra. Its goal was to determine the effect of vitamin A supplementation on the reduction of nutritional blindness and to define the health profile of children who receive capsules and those who do not. The Aceh study, which was funded by HKI, with assistance from AID, Hoffmann-LaRoche, IBM, Exxon, Mobil, and the Ford Foundation, yielded the exciting news that brings me before you today: the children whose mildly xerophthalmic eyes were sad signs of vitamin A deficiency were the same children who were dying faster from diarrhea and infectious disorders; and, the groups of children who received vitamin A supplementation had a mortality rate 20 to 30 percent lower than those who did not receive vitamin A.

Bangladesh is another country where vitamin A deficiency and xerophthalmia afflict millions. Here HKI has worked for almost a decade with the Government's National Nutritional Blindness Prevention program, training indigenous health workers in the prevention, diagnosis, and treatment of the disease. In 1983, with the assistance of AID, WHO, UNICEF, and the Public Welfare Foundation, HKI completed a national evaluation of the countrywide vitamin A distribution program. This study, which examined the eyes and nutritional status of 20,000 representative preschool children at 100 sites, confirmed that no child who had received a vitamin A capsule had gone blind. The study also showed that 45 percent of Bangladesh's 20 million youngsters were receiving vitamin A supplements, and it yielded significant data with regard to when and where children are most likely to be deprived of natural sources of vitamin A. These findings will be key to future operations aimed at dramatically reducing vitamin A deficiency, blindness, and child mortality.

Even in our own hemisphere, vitamin A deficiency and nutritional blindness remain a major public health concern. In Haiti, HKI has worked with the Ministry of Health in the 1970's and into the 1980's to establish an effective vitamin A supplementation program. This program still demands priority status for the malnourished children of the dry, poor areas of that land.

Most recently, Helen Keller International had led an extraordinary effort to distribute vitamin A supplements to the victims of the Ethiopian famine. An HKI team that visted the feeding camps in Ethiopia and in Sudan earlier this year recorded the highest rates of nutritional blindnes ever: up to 10 percent of the children had advanced symptoms—dry eyes and corneal scarring. Many were irreversibly blind. Since then, 2½ million megadoses of vitamin A have been shipped to their aid, and 2½ million more megadoses are being readied. An HKI team is now in that beleaguered area training health workers and treating the children of the famine, whose relief rations contain little, if any, vitamin A. The fact that vitamin A affects child mortality invests their relief effort with even greater importance.

Now, what does HKI's enormous experience add up to? By planning the distribution of some 300 million vitamin A capsules to children at high risk of blindness over the years, we know how to deliver these "golden bullets." We have the knowledge that 20 to 30 percent of the very same children we save from blindness are also being saved from death. We have the respect of governments, like Indonesia's, that make major commitments to vitamin A supplementation and request our technical assistance to integrate it into their national health system. We have the unique capacity to measure the impact of other efforts. We have myriad resources to draw upon for our work: our loyal individual donors, who respond generously to HKI's appeals; other PVO's; corporations and foundations; and WHO and UNICEF. And, of course, we acknowledge with gratitude the steady support of AID for our primary eye care programs.

I submit to the members of the House Select Committee on Hunger that we take this experience, this knowledge, these resources, and add to them the increased commitment of the United States government in the form of significant financial assistance for child survival. Only then can we mount the research that will enable us to fully translate our sight-saving strategy into a life-saving strategy on a grand scale. I repeat: The vitamin A technology exists and it is low cost. We know how to find the children who need it, and we know how to deliver it. We know that governments of developing countries set a high priority on it.

This is why Helen Keller International in March submitted a Child Survival Proposal to the office of Private and Voluntary Cooperation, Bureau for Food for Peace and Voluntary Assistance, Agency for International Development. We requested funds for a three-year program to prevent and treat widespread vitamin A deficiency in four countries where children are at grave risk of blindness and child mortality. Bangladesh, Haiti, Indonesia, and Zambia. As I mentioned before, HKI has long experience in the first three countries, and we have recently begun a full-scale blindness prevention program in Zambia.

Under this Child Survival Proposal, HKI would study in detail the impact of vitamin A on child mortality in Bangladesh and Zambia, especially, in collaboration with the International Center for Epidemiological and Preventive Ophthalmology and the Institute for International Health Programs, both of Johns Hopkins University. We would also initiate expanded intervention strategies in Bangladesh, Haiti, Indonesia. Of particular importance will be reaching large numbers of children at low cost. We expect, also, research that will link the benefits of vitamin A to the oral rehydration and immunization programs carried out by UNICEF. Finally, we propose to disseminate these valuable experiences to other governments and to other private voluntary organizations, so that vitamin A will be integrated into child survival strategies throughout the world.

Africa is a major priority. While we have a great deal of information about children in Asia, little is known about children in Africa, except broadly that many are malnourished, and that measles epidemics are devastating, leaving many dead and many of the survivors blind. But we know there is an obvious connection between measles, other debilitating childhood diseases including diarrhea, and the depletion of vitamin A leading to blindness. Zambia is an excellent candidate country for a study of these phenomena. In this hemisphere, Helen Keller International would wish to pursue these objectives in Haiti, where the need is great and our agency has experience.

To make a dramatic impact on child survival with the use of vitamin A supplementation, we have requested $2,984,000 from AID for the 3-year period beginning September, 1985. This amount will be matched with approximately $3,550,000 from Helen Keller International and other funding sources.

Finally, I hope to have conveyed the importance of what can be achieved by a PVO. HKI is by no means alone in focusing attention and resources on solutions to many of the great human problems at hand today. PVOs are in the forefront of any number of significant efforts affecting the lives of millions of the world's neediest people. With regard to vitamin A, it took fifteen years to reach this moment—a moment which I feel certainly would not be occurring, were it not for the dedication, courage, and commitment of a PVO, its directors and staff, and the countless donors who helped make it all possible.

Before I close, however, I feel it is critically important to comment about the need to increase the level of priority given to health and nutrition activities by the Agency for International Development. I have spoken of the "Child Survival Revolution." Americans again have demonstrated their concern for, and support of, efforts made in response to human suffering. Events in Ethiopia and Sudan have led to an unprecedented outpouring of assistance. More than anything, it has been the faces of the children that have left us agonized, outraged, and determined to act. The programs of our Government must embody this concern and determination. AID's programs for health and nutrition linked to child survival must be expanded.

Yet, the funding levels for health and nutrition in fiscal year 1986 are some $100 million below what Congress appropriated in fiscal year 1985, and there is no allocation for vitamin A activities in the Office of Nutrition budget. While I applaud the actions taken last November by the House and Senate in establishing the Child Survival Fund and increasing funding for health and nutrition activities, I urge that the same actions be taken this year with regard to both fiscal year 1986 and fiscal year 1987 budget levels.

Congress must take the lead in demanding that health and nutrition activities receive greater support.

I can tell you, on the basis of recent visits to several developing countries, that USAID mission directors state that they are extremely short of funds for health and nutrition programs and of technical experts in the health field. In addition, mission staffs, taking the lead from Washington—whether international or not—do not see health as the priority it should be.

In fact, were I an AID mission director, I would have been able to say that my institutions regarding health and nutrition funding levels were correct when I saw the current budget requests.

What has been created is a vicious circle, exacerbated by bureaucratic procedures. Lack of emphasis has led to lack of expert personnel at the mission level, which has led to a decrease in health and nutrition projects, and, in turn, to a drop in requests. The need remains overwhelming. without expanded US assistance there is little or no hope for survival for millions of vulnerable children.

PREPARED STATEMENT OF DAVID M. FRENCH, M.D., PROJECT DIRECTOR, BOSTON UNIVERSITY PROJECT FOR STRENGTHENING HEALTH DELIVERY SYSTEMS IN CENTRAL AND WEST AFRICA

INTRODUCTORY COMMENTS

It is both an honor and a privilege to have the opportunity to testify before the Select Committee on Hunger of the U.S. House of Representatives. It is my sincere hope that this testimony will make a positive contribution to the health and wellbeing of the peoples of Africa.

Having lived and worked in Central and West Africa for the past 9 years, as a representative of the American academic community, I have had the unique experience of trying to deal, first hand, with problems of upgrading the health of the citizens of some 20 countries. We are all indebted to the U.S. Agency for International Development for its ability to work with the twenty participating countries and the African Regional Office of the World Health Organization in conceptualizing the unique project design that has proven, so far, to be quite successful. Equally important, has been the collaboration of an American academic institution, Boston University. This unique grouping of actors has proven to have much to do with the Project's success. As Project Director I would like to take this opportunity to express my gratitude to one and all.

The staff and numerous consultants, African and American, who have worked toward the improvement of the delivery of Primary Health Care Services in Central and West Africa recognize the serious exacerbation of the health problems caused by the prolonged drought and consequent malnutrition and starvation that have befallen Africa. We all feel that no one dedicated to the improvement of the health of Africa can ignore those special problems that loom ever larger in consequence of the drought. We do not feel, for example, that it is morally right for us to limit ourselves to our current project objectives that do not happen to include the special health problems created by the drought. The design of the Project to Strengthen Health Delivery Systems in Central and West Africa came about before the drought situation and its consequent health problems were recognized. In addition, we feel that there is much that can be contributed by the staff, organization, and Boston University itself that has been gained through some nine years of positive experience on site in Africa. It would seem both rational and reasonable to continue this unusual institutional association with Africa Governments, AID and WHO that has been notably successful to-date toward the goal of amelioration of the special Primary Health Care problems facing Africa, especially those problems of children and of the drought.

STATEMENT OF THE PROBLEM—CHILDREN

The United Nations Children's Fund [UNICEF] is to be commended for its efforts over the past 3 years, in particular, in the world-wide campaign to save the world's children. What little data that exists for many parts of the world (and this is especially true for Africa), exists due to UNICEF's increasing efforts. I shall base much of my factual background, especially at the outset of this presentation, on the UNICEF report, "The State of the World's Children 1985." For those of you here gathered, I should like to strongly recommend your reading of this report which is so well done and which so dramatically points out the severity of the problems facing the world's children.

UNICEF strongly urges a very simple but effective approach to breaking the vicious cycle of malnutrition and infectious disease that leads to the death and disability of so many of Africa's children. It is a Primary Health Care [PHC] approach that makes maximal use of easily attainable human and treatment resources. In much of Africa today fully 50 percent of the annual national mortality of many countries is attributable to the deaths of children under the age of five years. To reach the age of five years is an achievement of some moment in these countries. The desire of parents to have assured survival of infants has much to do with the success or failure of family planning programs. Child survival, therefore, is the first step in family survival and the orderly planning of family size.

Few would argue with the UNICEF approach of promoting: (a) breast feeding, (b) oral rehydration, (c) growth monitoring and maintenance, and (d) immunization. These modalities are attainable in any African community and in a cost-effective manner. The experience of the Project For Strengthening Health Delivery Systems in Central and West Africa (SHDS) carried out by Boston University in collaboration with the African Regional Office [AFRO] of the World Health Organization [WHO] and with resources supplied, as well, by the U.S. Agency for International

Development [USAID], over the past eight years, has been that any of twenty countries served could and would absorb and utilize resources and training to better serve their communities through PHC. We have every reason to believe, based on the SHDS experience to-date, that a rational and attainable four point program of PHC such as that advocated by UNICEF and noted above can be mediated through academic and other private organizations which have necessary field resources and experience in Africa. The collaboration of Boston University and AFRO over the past few years stand in evidence of this fact.

The UNICEF "World Statistics on Children" statistical pocketbook for 1984 was reviewed for the twenty countries participating in the SHDS project. Seventeen of the twenty countries we served by SHDS were listed. The following is a brief verbal summary of some of the findings.

Infant morality: 98-204/1,000 live births.

Percent of low birth weight: 10-23 percent (no record for 7 countries).

Death rate (1-4 years): 19-50/1,000.

Child wasting (12-23 months): 5-39 percent (no record for 9 countries).

Full immunization (measles, TB): 6-100 percent/2-92 percent (no record, 6 countries).

Full immunization—DPT, polio: 2-39 percent/2-45 percent (no record, 8 countries).

Immunization, pregnant women, tetanus: 1-60 percent (no record for 11 countries).

The above figures represent ranges to certain selected indicators taken from the UNICEF statistical pocketbook. Some of these are so-called basic indicators having to do with population size and break down, births and deaths and life expectancy, others are nutrition, health, education, demographic and economic indicators. I should like to make some comments about these statistics as to their importance and accuracy.

The underlying importance of such selected indicators has to do with the very future of any nation since a nation's children are its future leaders. One can compare these indicators from nation to nation and the disparity between those in the developed and the developing world stands out quite glaringly. In order to illustrate this, I have listed below the same selected indicators for five other countries, none of which is in Africa and one of which happens to be the world's most populated country and is located in Asia.

	Infant mortality	Percent low birth rate	Death rate 1-4 year	Child wasting (12-23 months)	Full immunization (measles, TB)	Full immunization (DPT/polio)	Tetanus immunization pregnant women
Union of Soviet Socialist Republics.	25	8	2 (1960)	Not listed	96/not done	95/95	Not listed.
United States	12	7	0	do	do	Not listed	Do.
United Kingdom	12	7	0	do	50/not done	35/79	Do.
Sweden	7	4	0	do	56/not done	100/100	Do.
China	41	7	2	do	Not listed	Not listed	Do.

This is hardly a critical epidemiological or demographic study, but it shows us, quite dramatically, the magnitude of the problem of Africa. Nor can one say it is explained solely by the size of the GNP or other economic indicators although availability of economic resources clearly plays a role. The GNP of China is listed as $300.00, USSR as $4,550, the United Kingdom as $9,110, the United States as $12,820, and Sweden as $14,870 in 1980 or 1981. One would suspect from the preceding, that there are interventions that are affordable and efficacious that can be carried out even in the absence of large amounts of capital resources; this is what PHC is all about and why the World Health Assembly has adopted the PHC approach. I would like to submit that there is a role for the United States to play in its Foreign Assistance programs and that the place to focus such assistance, in the developing world, is in Africa where the greatest need is, in view of widespread drought and starvation affecting, to some degree, perhaps 100 million people.

At this point, I should like to return to the basic theme of this presentation, the health and survival of children in Africa. The point has already been made relative to the importance of children to the future of a country. In addition to this, children happen to make up a considerable part of the populations of countries in the developing world and in turn contribute a large part to the health problems of those countries. In seventeen of the twenty countries participating in the Project to Strengthen Health Delivery Systems which have participated over the last few years, as noted above, available statistics reveal the following: The population aged 0-15 years comprises 41-50 percent of the total population in these seventeen countries. The populations aged 0-4 years make up 37-40 percent of the 0-15 years age group and, indeed, the 0-4 years population make up 16-20 percent of the total populations. It is safe to say that these figures are fairly characteristic throughout subsaharan Africa. The case would seem, therefore, to have been made to justify serious and extended interventions on the behalf of the children of Africa. And, if one considers the added burden placed upon these populations by drought and starvation, there can be little question that if one makes the decision to do anything at all, one would have to seriously consider committing oneself, or nation, to a plan of action of sufficient magnitude to have an impact.

These latter comments are made advisedly, since it is very difficult to interpret the signals which come from U.S. Foreign Assistance. On the one hand, we are gratified by the willingness of the U.S. Government to make available food and to commit itself, at least at the level of top management, to a Child Survival Action Program [CSAP], but on the other hand, decisions to cut back and even consider elimination of health program development at the bilateral level, even if resources are made available by the Congress is quite disturbing. It is rumored that such an approach is justified based on the lack of absorptive capacity of governments and programs involved. Does this mean that we are, in fact, committing certain populations to widespread deprivation and death—at least part of which the United States could prevent—because they have not met some prequalification for help?

Is it not incumbent upon us to include in our help the development of the necessary capability to better manage the material resources that we might provide? In other parts of the world, where we have intervened over a longer period of time, there are now successfully operating programs with management modalities, many of which have a significant amount of self sufficiency. Did they already have existing capability to manage and administer our aid in place in advance? I think not. In fact, I am mindful of one excellent example, or several, the Southeast Asian Ministers of Education Organization [SEAMO] and its regional tropical medicine and public health project [TROPMED] wherein the United States and other interventions made possible institutional development and creation of manpower necessary to support such needed programs. Similar examples exist in the Americas. These institutions have played a significant role in the manpower and know-how in the regions where the need existed.

Not only has this increased the absorptive capacity of those regions, but at the same time their productive capacity and self-reliance have been developed, as well. Improved health indicators go hand in hand with this kind of development assistance in other parts of the world. I suspect the same would occur in Africa. The outcome for these populations concerned has been one of redemption rather then of condemnation to continued death and privation. Blaming the victim is an easy way out, but the victim is not helped in the least by it.

At this point I should like to examine the Child Survival Action Program [CSAP] more closely as it might apply to Africa. In advance I wish to say that there is, in addition to the fact that I live and work in Africa, a very good reason to examine the CSAP in relation to Africa, and that is the severe drought and starvation now extant across much of the African continent.

The question, frankly, is will Africa's share of a worldwide program budget available under the CSAP be sufficient to meet a significant portion of the vast need? I should begin this portion of my discourse by commending the AID Administrator, for his foresightedness as expressed in his worldwide cable that went out to all AID missions this past February. That cable does, indeed, approach the problem correctly, and is in line with the UNICEF approach outlined earlier in this document. Let me ask several questions, however, with the special problems of Africa in mind. How many of the five new ORT programs will come to Africa? Is the expansion and acceleration of six already existing immunization programs going to make a difference in Africa where such programs are especially needed in areas of drought and starvation? How many of these existing six immunization programs, in fact, are in Africa?

The expansion of nutrition education programs to improve the feeding of infants and the monitoring of infant growth and development are excellent activities, but again how much of this is planned for Africa? In fact, which are the African countries that will be included in that limited number of countries selected worldwide—is it one or two, perhaps, three that will be selected?

My next concern is with the bilateral program focus for the CSAP. As was pointed out earlier, absorptive inadequacy relative to program development in a country or region is overcome by developing training activities to create adequate personnel to staff program activities. The SHDS experience in West and Central Africa, to date, has been that support and development of existing regional training facilities is much more cost effective and rational than to attempt the same thing on a country-to-country basis. Furthermore, certain other supply and support activities in support of PHC might well be carried out more cost effectively on a regional basis and in collaboration with other international assistance organizations including the WHO. I would hope that the Administrator's focus on bilateral programs would not rule out those other things better done on a regional basis such as mentioned above. Perhaps the greatest encumberance to CSAP establishment in Africa that would result from too heavy dependance on bilateral program development resources is the fact that technical support in the health field has all but been eliminated from the bilateral Mission, at least in West and Central Africa. Professional public health personnel have either been eliminated or left with little or no support resources in the various Missions and, indeed, in the two Regional Economic Development Services Offices [REDSO's] in Africa.

If additional budgetary resources are made available by Congress or the Administration, it is not necessarily assured that they can be properly utilized or utilized at all, for that matter, if there is not sufficient organizational support available from AID itself at the bilateral Mission level. recently, AID has made a large amount of program activity available, again on a world wide basis, through Science and Technology/Health, but it cannot be participated in unless requested through the bilateral Missions. Such requests require technical know-how such as is virtually non existant now in USAID Missions in Africa.

If I am not mistaken, $40 Million of the $85 million made available by Congress in the fiscal year 1985 Continuing Resolution has been committed already to several organizations through Science and Technology/Health for worldwide use. Under such circumstances, it is difficult for me to see how Africa will be able to participate in the very program activity the need for which was behind the unusual bequest made recently by Congress. In face of the unusual need and the difficult circumstances of participation, it would seen appropriate to consider a special mechanism for development support for Africa, at least, in the field of health.

A program for PHC development and support in Africa in collaboration with WHO/AFRO on a regional basis available to various national or regional programs or their development would seem desirable. Such regional PHC support programs would not preclude bilateral program development. On the contrary, it could be used to give necessary technical support to bilateral Missions and REDSO's alike in their development of much needed PHC support programs in this time of great need in Africa.

The SHDS project takes great pride in the fact that with a small field staff of five, at the most, and liberal use of consultants (for the most part African) it has been able to have an impact on the previously unmet need for trained personnel in health care. We are convinced that expanding the development of training opportunities within Africa is both possible and advisable. Training opportunities must be expanded at all levels and from the service delivery facilities at the district level all the way up to and including the Ministries of Health. Such training should include managers, professionals and technical personnel. The response to this approach has been almost overwhelmingly successful in the SHDS experience. The absorptive capacity of health care systems in the various countries would soon be within acceptable limits, and to the advantage of indigenous populations, if such an approach were taken. The centralization of effort and resources in regional acitivities, available to all participating countries, could provide an output through training courses and workshops as was done in the SHDS model.

Participants of these courses are now becoming available (backed up by staffs of the various regional training centers, SHDS staff and SHDS consultants) as trainers and organizers of programs in the various participating countries. SHDS project training activities have been carried out in eight existing regional institutions located in six countries. Additional short courses or workshops have been given in a number of other countries and several Ministries of Health have served as training grounds as well.

The SHDS project has supported short courses, academic training programs and workshops. Educational and training activities, as a consequence, have occurred in most of the twenty participating countries. Included in the training program have been top-level intersectoral management workshops, training-of-trainers courses in Systematic Course Design, top and mid level management of Expanded Programs of

Immunization [EPI], applied research in delivery of health services and continuing education courses on PHC for nurses. These courses have reached a broad spectrum of health personnel, at all levels, and have served as a major vehicle for providing operational and managerial personnel with the knowledge and skills needed to develop PHC in the region.

Mr. Chairman, the following comments are addressed specifically to your request on behalf of the members of the Select Committee on Hunger for information on how our current project in Africa might be enhanced by the additional health and nutrition funding approved by Congress in October 1984. I am responding, therefore, by describing the development of a Boston Institute whose location would be in Africa (where the project now is, as well) and whose purpose would be nurture and support primary health care development in Africa. This institution would continue to enjoy the close productive inter-institutional relationship between University, WHO, AID and the various countries served. An important consideration of some magnitude is that the usual start-up lag time normally suffered on new projet initiation would not occur in this instance. The immediacy of the health care crisis in Africa demands moving ahead with all deliberate speed.

THE BOSTON UNIVERSITY INSTITUTE FOR PRIMARY HEALTH CARE DEVELOPMENT AND SUPPORT IN AFRICA

For several years now, Boston University, in collaboration with 20 West and Central African countries and the World Health Organization's African Regional Office [AFRO] has provided the technical assistance to develop and support the Project for Strengthening Health Delivery Systems in West and Central Africa. This has been done with notable success through concentration on four program objectives: (1) to improve the management and planning capabilities of the various Ministries of health, (2) to increase the skills and improve the utilization of health personnel in PHC delivery at the periphery, (3) to improve regional and national disease surveillance and health demographic data systems, and (4) to improve the development of practical and affordable health delivery systems through applied research. The twenty participating African countries are unanimously behind the need to continue to gain much needed health delivery system development support from projects like SHDS. AFRO, likewise, continues to support the SHDS approach of collaborative involvement with the member states as their Secretariat.

A Boston University Institute for PHC Development and Support in Africa is being proposed as a part of the Boston University Center for African and Middle Eastern Health Programs which, in turn, is part of the Health Policy Institute. By so locating the Boston University Institute, we would continue to take advantage of the staff and facilities which have existed in support of the successful SHDS Project. In addition, the vast expertise obtained and the many contacts and associations, within and without Africa, would continue to be readily available to the proposed Boston University Institute. Most important of all is the continued maintenance of the operational base for the carrying out of program activities on the African continent. We are convinced that much of the success of the SHDS project, throughout its existence, would continue to be useful to newly proposed project activity herein stated. In fact, the accomplishment of these newly proposed activities would necessitate the re-creation of much of what the SHDS project has already done in its four objectives, before being able to achieve new or modified program goals.

THE THREE PILLARS

1. Malnutrition intervention in the short and long term

The most serious and all-pervasive health problem in Africa is that of malnutrition. Malnutrition in Africa has come to the attention of the world recently because of widespread drought and starvation evident in the news media. But this is only the tip of a very large iceberg which has been present and growing for a very long time. No health project in Africa can any longer ignore the ever burgeoning consequences of malnutrition. It is proposed that the first of three pillars of future program activities of the Boston University Institute, arising out of the SHDS experience, focus on the health aspects of malnutrition in the context of the current crisis in Africa.

In the short term, the Boston University Institute would support the emergency supply of food to the various populations being served by U.S. Government supported activities or those being supportewd from United States based voluntary agencies. The simple emergency supply of food will not necessarily stem the death and disability caused by malnutrition. Diarrheal diseases and infectious diseases of a generalized nature, or those localized in one organ system, are usually the proximate causes of death and disability associated with severe malnutrition. Health support program activities must therefore accompany food distribution and institute agressive preventive measures as well as treatment modalities.

All such programs fall within PHC practices and where possible should serve as the basis for future ongoing PHC program development. In addition, there is great need to determine the extent of the consequences of malnutrition by surveying involved populations—particularly in the below 5 age group.

The SHDS Project has been developing a field Health Information System [HIS] designed to collect and analyze data at the periphery where results of analysis can be put to immediate use by those responsible for PHC. This delivery approach to data collection and analysis has already been used in one African country and should be used to collect health data as part of the intervention against malnutrition. Such data will allow the more appropriate design of long term interventions to overcome, as much as possible, the effects of the severe malnutrition. Such a short term program should focus on children under 5 and pregnant and lactating women, for they represent the future of any country.

In addition to preventive measures and data gathering activities, a strong program in environmental health will be essential in support of the program of prevention. Those three will constitute the minimum health support program activities provided along with emergency issuance of food.

In the longer term nutrition training and demonstration programs in accompaniment with agricultural development programs must be designed and undertaken collaboratively. It is proposed that such programs be undertaken jointly with academic agricultural and veterinary medicine education institutions. Agricultural institutions from the American Southwest with long experience in arid lands agriculture may be the most desirable.

II. A primary health care development and support program for African nations

In recent times, considerable financial resources have been made available to African nations through AID in realization of the magnitude of health problems on the African continent, many of which continue unabated. Unfortunately, at the same time, the staffing of the various AID missions has continued to reflect a steady decrease in trained U.S. public health personnel.

The program is further compounded by the sad conclusion, on the part of certain AID officials, that investment in the improvement of health in Africa is a hopeless situation and that funding for specific bilateral health program development in general should not be encouraged. At the same time, vast amounts of funding are being made available for health program development worldwide. Such development is dependent on the ability of bilateral missions to identify and request such program development assistance.

As can be seen, this is a "no win" situation for African nations as it stands. We are proposing to remedy this situation by making available the necessary technical support to the various individual African countries, and their USAID missions, to assist them in development of appropriate PHC programs to meet their reasonable needs. This technical support would be made available through the Boston University Institute and would be oriented to the goals identified in in the recent worldwide cable from the AID Administrator (State 054199, 6 March 1985):

The Child Survival Action Program; Vector Biology and Control; Technologies from Primary Health Care; Mass Media Health Education; and (we propose) a Boston University Institute for PHC development and support in Africa as is being described herein in outline form.

III. Manpower development in support of PHC

There is currently being proposed by REDSO/WCA a manpower development project. We at Boston University would like to support that approach which would develop educational institutions that, in turn, would train badly needed manpower. The areas of emphasis we feel are important and could be of assistance would be: (1) management training, (2) training-of-trainers of primary health care workers, (3) training in field epidemiology for PHC, and (4) the creation of institutional capability to carry out applied research and develop and utilize, in a practical way, health information programs and systems. The creation, in association with AFRO, of a regional educational organization similar to SEAMEO and regional training and institutional development projects like TROPMED would provide the mechanism to give on-going support to manpower development located on the Africa continent.

Mr. Chairman, in closing, I would, again, like to express my appreciation for the opportunity to tell this august group of some of my experiences of the SHDS Project. Likewise, I am happy to report to you, and the Administrator of AID, how this AID funded project could be adapted in such a way as to foster PHC development in Africa while, at the same time, fulfilling an important health care role essential to meeting the exacerbated needs created by the current drought. Only a skeleton has been put forward. However, we, at Boston University, would be quite happy to develop the above institute concept so as to fit closely the needs of all. Most of all, it is our hope and prayer that we may be able to do more for the suffering peoples of Africa.

APPENDIX

(Workshops/Courses, Consultants, Persons Trained by SHDS)

1979 - 1984

WORKSHOPS/COURSES ORGANIZED BY SHDS 1979-1984:

Objective	Title	Times held
Obj. I	Health Management	33
Obj. II	Health Training Development	20
Obj. III	Epidemiology & Disease Surveillance	13
Obj. IV	Low Cost Health Delivery (Applied Research)	13

COURSES WITH SHDS INDIRECT SUPPORT 1978-1984

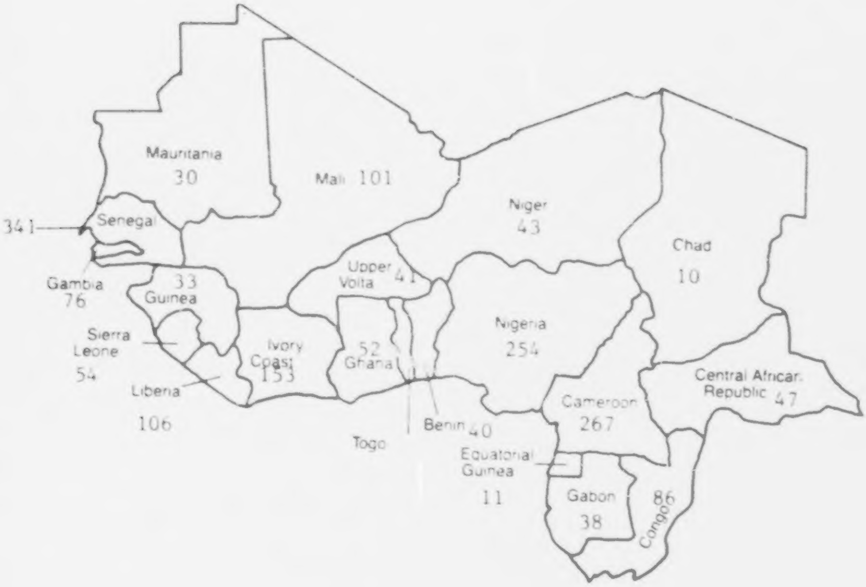
-Number of Courses at RTC Lome and Lagos:	35
-Participants from SHDS Countries:	443
-Participants from Non SHDS Countries:	268

iii.

SHDS CONSULTANTS 1979-1984

Objective	Title	Total
Obj. I	Health Management	77
Obj. II	Health Training Development	84
Obj. III	Epidemiology & Disease Surveillance	61
Obj. IV	Applied Research	13
TOTAL		235

NUMBER OF PERSONS TRAINED FROM EACH OF THE SHDS COUNTRIES


Mauritania
30
Mali 101
Senegal
341
Gambia
76
33
Guinea
Sierra Leone
54
Liberia
106
Ivory Coast
153
52
Ghana
Upper Volta
41
Niger
43
Chad
10
Nigeria
254
Togo
Benin
40
Cameroon
267
Central African Republic
47
Equatorial Guinea
11
Gabon
38
86
Congo

PREPARED STATEMENT OF PHYLLIS DOBYNS, VICE PRESIDENT, PROGRAM AND PLANNING, SAVE THE CHILDREN

Mr. Chairman, members of the committee, my name is Phyllis Dobyns and I am Vice President for Program and Planning of Save the Children, the international and domestic community development and child assistance agency. I also serve as Vice Chair of the Development Assistance Committee on INTERACTION: The American Council for Voluntary International Action. It is in this latter capacity that I join you today.

I would like to thank you for this opportunity to be with you to express some of our concerns about an issue of vital concern to each and every one of us: food. Specifically, the ways in which we can work together to foster a genuine improvement in the nutritional well-being of millions of our fellow human beings.

The issues of hunger, food production and nutrition have received a great deal of attention over the past several months, attention sparked by the devastation in Ethiopia and other parts of Africa. The Select Committee has been instrumental both in garnering that attention, and in channeling it in constructive directions. But we come again to a theme you have heard and repeated all too often: we must look beyond the short term to durable solution, solutions which will serve not only those in the throes of starvation, but those on the edge, who might face it tomorrow.

It is these people, many of whom have never had a balanced, nutritious meal in their lives, who are the invisible hungry, and who make up the vast majority of the 15 to 20 million people who die each year as a consequence of needless hunger. It is these people—of whom there are between 500 million and 1 billion, depending on whose estimates you are using, who suffer the debilitating effects of hunger chronically, without drama or fanfare. They are the ones whose lives are shortened, whose ability to work and play is diminished, and whose children often do not survive beyond their first year.

To state the obvious, food aid and relief is not the answer for these people. No elaboration of this point is needed. But what these people want, and what they need, is to be self-reliant. In my 18 years of work in countless villages around the world, I have never met anyone, no matter how poor, who wanted to be dependent on others for his or her well-being. People want to work, and want to be able to provide for themselves and their families. The recognition of this fact is at the very heart of the work of Save the Children and of the other people to people voluntary organizations which make up INTERACTION.

There are many possible approaches to the task of providing effective assistance which will lead toward self-reliance. Almost all are appropriate somewhere, while completely inappropriate in other environments. In general, it is safe to assume that people, in order to be able to maintain an adequate nutritional status for themselves and their families on a sustainable basis, must be able to buy or grow their own food. They must have sufficient information and educational background to recognize what crops provide essential nutrients, and they must have available to them techniques which make it possible to grow those crops in sufficient quantities. The remainder of my testimony today will focus on two areas deserving of Congressional attention that will help to enable poor farmers to do just that.

I. BASIC AND APPROPRIATE AGRICULTURAL RESEARCH

The debates over the success or failure of the Green Revolution are familiar to all of us. There is no doubt that much of the benefit of that intensive and extraordinary research effort never reached those in most urgent need of help. Yet, at the same time, the Green Revolution demonstrated that a commitment to basic agricultural research can yield dramatic results. What is needed today is another such effort, but this time one that is targetted to the needs and conditions of the subsistence farmer. The Green Revolution focused on agriculture in temperate climates. Needed now is an effort that opens the way to dramatically improved yields in the arid and semi-arid lands of Africa. The Green Revolution focussed on wheat and corn production. Needed now is a similar effort with the basic "poor man's crops"—sorghum and millet.

II. SUPPORT FOR THE INFORMAL AGRICULTURAL SECTOR

In the statistics about food production in the developing world, much of the actual food consumed by poor people does not even get accounted for. It never shows up at the market, or in GNP figures. Any vegetables available to the family are produced in the backyard, kitchen garden. Meat and eggs come from the family chicken coop, which may contain five or fewer birds. And the labor which generates this production is frequently that of the women and children.

As a consequence, we tend to forget about this, the food production sector with the most immediate and dramatic impact on nutritional well-being. It all happens on such a small scale, that it is difficult to imagine its real importance. Yet the effects of improvements in this sector are at least as significant as those which can be achieved through more traditionally oriented activities.

There are several steps which must be taken in any effort to strengthen this informal agricultural sector.

First, people must be made aware of the importance and value of a varied and balanced diet. Here in the U.S. we take for granted that a wide variety of food is available to us, and consider it unusual to eat the same thing two days in a row. In most of the world, this is not the case. Traditional diets are often limited to basic staples, containing some, but not all of the nutrients needed for good health. When people learn the value of eating other kinds of foods, the traditional patterns do change. One INTERACTION member agency, Meals for Millions/Freedom from Hunger Foundation, reports that in one project aimed at stimulating home gardening in Thailand, the nutritional status of 12,500 families was dramatically improved principally through the introduction of leafy vegetables into the diet.

This can be done through already existing agriculture extension programs, through other community interventions such as primary health care networks, and through creative use of media—particularly radio.

Once people begin to see the value of producing varieties of homegrown food for their families, they begin to ask the next key question: how? Information and training must be made available at the grass roots so that those people whose lives are affected can see and learn on a day to day basis.

One effective way of accomplishing this is through small scale, locally based demonstration and training centers which allow community members to experiment with new techniques, and to see the results first hand. It is essential that these centers be integrated into the communities themselves, and that they are situated close enough to be accessible to the farmers. It is not enough to set up a large regional training center to which you might bring people for a one shot training program. Learning takes time, and it takes place best when it is a part of the home environment. Community based demonstration centers also have the advantage of being able to address the peculiarities of the local soil and climate, as well as local food customs.

These demonstration centers must build toward true local food security. They must make available a diversified portfolio of food producing activities appropriate for small scale implementation, such as chicken coops, fish ponds, and uses of ground and tree nuts. In this way, communities can avoid overdependency on any single source and thus reduce their vulnerability.

An emphasis on local production also reduces dependency on a market system and infrastructure which may be uncertain at best. It is not merely a lack of roads and transportatation. It is also a lack of marketing, processing and distribution technology. It is therefore essential to keep the production of nutritious food at the home and village level. To do so, it must be economical and attractive for the people. It must be cheap. It must make us of locally available inputs. It must appeal to those who have the least to invest, but the most to gain.

Finally, the effort to build local food security must include making available appropriate low cost techniques of processing and storing food once it is produced. This can mean the difference between life and death, particularly when times are hard. This was illustrated clearly to me in the case of a group of communities surrounding the town of Dori in Burkina Faso (formerly Upper Volta). In the early 1970's, these communities and the rest of the Sahel faced a severe drought. The resulting famine killed many. Now, in the fourth year of the current, even more severe drought, many fewer are dying. The reason for this is clear. After the last drought, the people realized that they would have to prepare themselves—make themselves secure in case it should reoccur. As part of a Save the Children community development program, the community built small grain storage facilities which have helped them get through the hard times to this date. This concept, of community grain storage, was revolutionary to them, but when they saw that it was in their interests, they decided to do it. The techniques they used were simple, inexpensive, and based on locally available materials, on which there was no need to spend money. Simple things do save lives.

III. CONCLUSION

Mr. Chairman, members of the committee, I leave you today with two recommendations. These are recommendations that will take a commitment of funds, but I think there is little doubt about their importance if we are to truly make an impact on the needless tragedy of hunger which haunts us. In summary, they are:

To promote an intensive program of basic agricultural research that is targetted at the conditions and needs of the subsistence farmer; and

To provide substantial support for efforts to strengthen the informal food production sector through home gardens and other small scale, community based activities.

Let me be very clear that I am not suggesting that we undertake these efforts instead of any of the other critically important programs already underway. These initiatives are in addition to the emphasis you have already given to the well-being of the poorest of the poor through groundbreaking programs such as the Child Survival Fund. Please don't rob Peter to pay Paul. Both are needed.

Mr. Chairman, there is a real opportunity for us here. When I say us, I mean us a human family. We have the opportunity to live in a world where other members of our family do not have to live and die in a state of hunger and malnutrition. There is no reason that hunger has to persist, except that we allow it to. Thank you.

League for International Food Education,
Washington, DC, May 16, 1985.

Hon. Mickey Leland,
Chairman, Select Committee on Hunger,
House Office Building Annex 2, Washington, DC.

Dear Congressman Leland: I was interested in hearing the testimony before the Select Committee on Hunger on May 16—especially that of Ms. Phyllis Dobyns of Save the Children Federation.

Like Save the Children, the League for International Food Education (L.I.F.E.) has had a long-standing interest in the use of household gardens as a means for improving the nutritional level and increasing the income of rural peoples in the developing world.

L.I.F.E.'s recent activities in this area are detailed on page 2 of the enclosed paper, which proposes the establishment on a small Household Gardening Center to promote gardening activities, engage in necessary research, and provide technical assistance to practitioners wherever they may be found.

I would be glad if you could include parts or all of this proposal in the proceedings of the May 16 hearings, and even more glad if the suggested approach found favor with the members of your committee. It represents, I believe, a practical—and perhaps equally important in these straightened times—an economical way to promote an activity that should become an integral part of this nation's overall relief and development program.

Sincerely,

Albert Meisel, *Executive Director.*

P.S. I am sending you under separate cover a recent L.I.F.E. publication: *Home Gardening In International Development: What the Literature Shows,* by Leslie Brownrigg, which is, I believe, the most entensive review ever undertaken of the literature on the subject. I particularly commend to your attention the introduction, which contains a particularly good summary of the status of household gardening as a development tool, and the appendices which list practitioner organizations. (It is amazing how many there are.)

HOUSEHOLD GARDENING CENTER: A PROPOSAL

OBJECTIVE

L.I.F.E. proposes to establish a small Household Gardening Center to (1) assist public and private agencies working in development to plan, implement, and evaluate garden projects; (2) conduct and commission research on various aspects of gardening as a development intervention; and (3) serve as a clearinghouse for information for practitioner organizations. The intention is to extend the effectiveness and outreach of L.I.F.E.'s current activities in this area.

BACKGROUND AND RATIONALE

Household gardens have been part of the food production systems of most cultures since time immemorial. In more recent times they have also been widely employed as a development intervention. L.I.F.E. knows of some 150 public and private agencies currently involved in gardening activities in Africa, Asia, and Latin America.

Enthusiasts view gardens as an effective means of (1) increasing a family's overall supply of food; (2) improving its diet, and by extension, its health; and (3) increasing its cash income (by providing materials to sell). On the other hand, skeptics point to the relatively high failure rate of gardening projects over the years, and to the difficulty of replicating project models, even within a single geographic area. They also fault practitioners for having to date failed to assess with any precision the benefits obtained from their programs relative to work and funds expended.

L.I.F.E. takes something of a middle position. It acknowledges that the approach has had its shortcomings, but would argue that in large measure these are due to the fact that gardening has always been treated as a stepchild of the development process, and never received the attention and study accorded to other activities. Why this should be, it is difficult to say. It may be because in the overall scheme of things gardening programs are relatively "small potatoes", involving thousands rather than millions of dollars; or because even when successful, they result in comparatively small increments of food. Or perhaps it is that they represent an old and mundane rather than a new, high tech approach. (Paradoxically, this is one of their virtues.) In any case, as a result of this lack of formal attention, practitioners have pretty much had to go it alone, by trial and error. They have had no body of accumulated knowledge to fall back on, and no means of learning from each others successes and failures.

Most recently, there have been some attempts to introduce system to the activity. For example, Dr. Jack Gershon of the Asian Vegetable Research and Development Center in Taiwan, and garden specialist Paul Sommers, presently working with UNDP in the South Pacific, have both developed somewhat differing nutrition-oriented gardening models (Dr. Gershon's model is currently being tested in Thailand). Work has also begun on an analysis of existing and possible methods for evaluating, and assessing the benefits of, garden programs. This is being undertaken by the Nutrition Economics Group, an entity of the Department of Agriculture funded by AID.

Sensing a vacuum, L.I.F.E., which has long had an interest in small scale family food production, began some eighteen months ago to assume in a modest way some of the functions of a clearinghouse for gardening activities. Since that time, it has:

Commissioned and published the most extensive survey ever undertaken of the literature on household gardens in development (*Home Gardening in International Development: What the Literature Shows*, by Leslie Brownrigg, L.I.F.E., 1985);

Edited and published Paul Sommers' training manual on nutrition-oriented mixed gardening in the humid tropics;

Selected and trained 15 agriculture and nutrition specialists in Paul Sommers' approach to gardening in the tropics; these are now themselves training Peace Corps volunteers and their counterparts in six countries (for AID and the Peace Corps), and private agency staff in Central America, (for L.I.F.E.);

Commissioned a how-to manual in dry lands gardening (to be completed later this year);

Held a workshop on prospects for gardening for some 25 representatives of international agencies, private organizations, and the academic community; and

Been instrumental in paving the way for the analysis of evaluation procedures, cited above.

These activities have increasingly caused other organizations, public and private, to look to L.I.F.E. for leadership in this area. And L.I.F.E. is pleased to assume it. But it has become clear in recent months that with present resources, it cannot sustain this level of activity, much less undertake the much broader effort that it and others believe is required. Hence this proposal. (Current funding does not even permit replacement of the part-time person who is coordinating L.I.F.E.'s gardening activities when she leaves in June, 1985.)

ACTIVITIES OF THE PROPOSED CENTER

Technical Assistance. L.I.F.E.'s experience and the literature clearly indicated that poor planning and inappropriate implementation—pilot error—are responsible for much, if not most, project failures. Projects are placed in the wrong location—where there is no tradition of gardening, say, or insufficient water; or new vegetables are introduced without proper preparation; or developers work through the wrong community organizations; or the project is improperly staffed; the reasons for failure can be many. (One problem is that field workers tend to think that gardening projects are easier to develop than they are, and sometimes fail to take into account all the variables involved.)

L.I.F.E. would employ the Garden Center's small staff and a larger roster of outside experts to help programming agencies avoid some of the more common pitfalls, and assist them, on demand, in their project planning and implementation, in the on-site training of staff, and in establishing proper record-keeping and evaluation procedures. In recent months, L.I.F.E. has been in touch with at least two score practitioner agencies, public and private, and most of the private ones have indicated that they would very much welcome such a service, especially if it can be supplied at minimal cost to them. Several public agencies have also indicated an interest. This kind of assistance is currently not being provided by any other organization.

Research. Much remains to be learned about every aspect of this activity, from the economic and nutritional benefits to be derived from it, to the best programming and gardening techniques to be employed under varying conditions of terrain, climate, and culture; from the potential of gardens in urban areas, to relative efficacy of market and nutrition-oriented gardens; from ways of changing people's eating habits, to the reasons some people in a community will garden and others will not.

L.I.F.E.'s Gardening Center would study, or commission studies, on these and other relevant matters, focussing in the first instance on efforts to develop evaluation protocols that are susceptible to broad application, and on techniques for measuring the benefits to be obtained from gardening activities. No other organization is presently studying this range of issues and sharing the results with practitioners.

Information Collection and Exchange. An important reason to establish the kind of center that is being proposed is to create an entity that will serve as a nerve center for gardening activities; that will collect relevant information and share it with interested parties through publications, workshops, and by other appropriate means; and that will give gardening activities the kind of visibility and attention they have not had heretofore.

STAFFING AND FUNDING

The staff for this modest Gardening Center is projected at four—three professionals and one secretary. Two of the professionals would concentrate on providing technical assistance; the third would head the unit and take charge of the research and information functions.

The effort would cost approximately $400,000 a year (see budget estimate, attached). Funding is being sought for three years, with a determination to be made in the third year as to whether the initiative should be continued. The Office of Nutrition of AID currently supports L.I.F.E.'s gardening activities at the level of about $75,000 per year. If the sum remains constant, L.I.F.E. will require an additional $1 million over a three-year period to bring the Center into being and support its activities. However, these funds need not all emanate from a single source.

CONCLUSION

The full case for gardening as a development intervention remains to be made. But this much is clear: The concept—that by growing gardens families can help themselves to eat better and increase their income—remains a compelling one, and development organizations will continue to apply it. The question is whether they will do so randomly, each in its own way, or whether it is time to proceed in a more systematic fashion. L.I.F.E.'s answer is unequivocal. It is convinced that by distilling what is known about this activity, by studying what is not yet known, and by helping to educate practitioners in the field, it can raise the level of programming substantially. And who knows what may follow from that?

Budget estimate, Household Gardening Center

Staff:	
3 professionals (2 × $27,500; 1 × $37,500)	$92,500
1 secretary (1 × $18,000	18,000
Benefits (29%)	22,000
Administrative costs: Rent, telephone, equipment, supplies, printing, part-time clerical assistance, etc	50,000
Contract research	75,000
Training and workshop activities	75,000
Travel (staff and consultants)	50,000
Subtotal	382,500
Overhead (11%)	42,130
Total	424,630

○